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PETROLEUM.

THE PHENOMENA OF THE OIL WELLS ON OIL CREEK.

THE FICKLENESS OF FLOW AND SUBSIDENCE.

The subjoined description of the oil wells on Oil creek, "above Rouseville," which is at the mouth of Cherry run, the first tributary which flows into Oil creek from the east, above Oil City, is copied from the *Sunday Transcript*, of Philadelphia, by a chronicler who has obviously bestowed time and labor to the collection of his facts, which are specific in nature and minute in detail.

The narrative presents the risks of the oil trade in a startling light, and awakens apprehensions lest the inflow of surface water down the abandoned wells will rapidly multiply the difficulties and perils of oil production, and diminish the capacity of the region for oil supply.

"OIL CREEK, ABOVE ROUSEVILLE.—The connection between different wells entering the same oil veins, which tends so largely to the insecurity of leased property as well as small land interests in the Oil creek valley, has nowhere been more strikingly illustrated than on the farm formerly owned by the Widow McClintock, and by her bequeathed to Mr. John Steele. It is immediately above and on the opposite side of the creek from Rouseville, and contains about 200 acres, of which nearly one-half is bottom land, with a frontage on the creek of about half a mile. There are upon the farm upwards of twenty producing wells, yielding about 250 barrels of oil per day, besides forty abandoned wells, and ten or twelve new wells in process of boring. Some of the most productive wells on this property have been located upon the bank of the creek, where the Van Slyke well, put down in 1861 to the depth of 640 feet, flowed from 1,000 to 1,200 barrels per day: the Lloyd well at 470 feet, 120 barrels per day; the Chirty 30 barrels, and the Eastman, Ocean, Hayes & Merrick, and other wells, from 20 to 50 barrels per day. Latterly, however, these wells, located in almost a direct line, have produced no considerable amount of oil. The Van Slyke, which had produced an aggregate of over 40,000 barrels, was in May last yielding about 50 barrels per day as a pumping well; the Lloyd 20 barrels, and the Christy six or eight barrels, the others being idle. About the middle of May the "Hammond" well which had been put down by certain New York parties to a depth of 600 feet, directly between the Christy and the Van Slyke, and but a few rods from either, commenced flowing about 300 barrels per day, and thereafter the Van Slyke, Lloyd, and Christy produced very little oil, the daily yield ranging from three to ten barrels. The Hammond continued to flow until about the 10th of June, when, together with nearly a dozen other wells upon the flat, it was flooded by the drawing of the tubing of the Excelsior well on the John McClintock property, about 500 yards distant on the east side of the creek, and has since produced very little oil, except for a few weeks during the summer, when the Excelsior having been retubed, the Hammond yielded for a time, as a pumping well, about 150 barrels per day. Early in June, and but a few days before the Hammond was first flooded, the land interests in the well, including less than one-third of an acre, was purchased by the parties owning the working interest for $200,000. When these wells were first flooded, it was supposed to be the result of the sinking of a new well, a short distance below, on the flat, by Messrs. Vandegrift & Titus, but careful observation soon demonstrated the connection existing between all these wells, and that the Excelsior well was the source of the supply of the water which all were pumping. It appeared, moreover, that the Excelsior had ceased yielding oil within a few hours after the Hammond commenced flowing, and further, that the pumping of the wells upon the flat had daily a perceptible influence upon the water in the Excelsior. After much difficulty the owners of the two wells came to an understanding during the summer, by which the Excelsior was retubed, and the water being thus shut off, the Hammond produced for a short time 150 barrels per day, but the other wells adjacent have never been restored. Subsequently the tubing was again withdrawn from the Excelsior, and the Hammond has since pumped nothing but water. In numerous other cases the connection between different wells is proven with equal clearness, but the facts connected with the Hammond well raise another question of no little interest. The well was put down between two others already nearly exhausted. Subsequent facts prove that it entered the same veins as these wells, and being no deeper than these, its large production, while the others were yielding little, can only be accounted for by the supposition that it penetrated a vertical vein below the range of the horizontal veins supplying the adjacent wells. Such being the case, it would be liable to be flooded with the others, by the introduction of water into the horizontal veins, which being again shut off, as was shown by the retubing of the Excelsior, the well would resume its flow of oil wholly independent of the wells adjacent. In any case the question is one of much interest, and it is not doubted by the owners of this well that it will yet become a valuable property, whenever they shall be able to bring their difficulties with the owners of the Excelsior to a proper adjustment. There are two new wells upon the Steele property, producing about 40 barrels each; the two Painter wells are yielding together about 50 barrels; the McClintock ten barrels; the Morrison & Bell twenty barrels, and seven others from five to fifteen barrels.

The Rynd Farm, which is the next above, and directly oppssite Cherry Tree Run, consists of about 200 acres, embracing both sides of the creek for a sonsiderable distance, and is owned by the Rynd Farm Oil Company of New York. The company are actively engaged in developing the property, and several profitable wells have been sunk, and others are in process of boring. There are a large number of derricks on the premises, and the property is well stocked with everything necessary to work it with success and make it remunerative. There are on the property ten producing wells, yielding together about 150 barrels per day. On this farm there were formerly four or five flowing wells, yielding from 30 to 50 barrels per day, and the Rynd well at a depth of 335 feet flowed upwards of 500 barrels per day, but afterwards fell off to about 50 barrels, and in 1863 ceased altogether, after yielding upwards of 25,000 barrels. There are fifteen abandoned wells upon the farm, some of which are now being tested. Messrs. Hume, Crawford & Co., have two wells down, and are putting down a third; Porter, Crawford & Co., have three wells in operation, and Porter, Milroy & Co., one. The old Crawford well, which had been flowing about 30 barrels per day, stopped on the 5th of June. B. F. Wren, Long & Co., Brooks Wren, and other parties have wells in progress. During the summer several parties from Philadelphia and New York have purchased large tracts of land on Cherry Tree Run, embracing all the territory for seven or eight miles from its mouth, and upwards of a hundred wells are in progress, some of which are now at a depth of over 600 feet; but with the exception of a single well about half a mile up the Run, yielding 10 barrels per day, none are producing oil. Several wells are also in progress on Weikel Run, entering into Cherry Tree Run a short distance above its mouth. One of these at a depth of but little over 500 feet is throwing off large quantities of gas, but as yet gives no evidence of oil. The succeeding flat is known as the Blood farm, which extends also across the creek and embraces a considerable portion of the flat above. On the lower portion of this are some 20 abandoned wells, and a number of others are in process of boring, but none are producing, but very little effort having been made to develop this portion of the flat. The Brewer & Watson well flowed for a time 200 barrels per day, but is now doing nothing. On the upper portion of this farm, lying east and north of the creek, and owned chiefly by the Union Petroleum Company, there are about twenty producing wells, yielding during the summer about 500 barrels per day, and now about 250 barrels. The Maple Grove well is yielding about 20 barrels; the Filkins 10; the Filkins No. 2, 30; the Prince 15; the Duncan 30; the Painter 15; the Collins 30; the Ballad & Frack 15; the Burrows 20, and various other wells from two to ten barrels per day. The Ocean Petroleum Company own five acres on this part of the farm, including the two Filkins wells, of which they receive all the oil, and the Painter and Burrows wells, of the product of which they receive half. There were formerly twelve flowing wells on this section of the Blood farm, all of which were put down in the summer and fall of 1861. The Burning well, put down by the Maple Tree Oil Company flowed nearly 2,500 barrels per day, but soon fell off to about 250 barrels per day. It was yielding about 200 barrels per day up to October, 1862, when fire was communicated to it, and a very large amount of property destroyed. The space burned over embraced nearly twenty acres, on which were over one hundred oil tanks, containing over 30,000 barrels of oil. Seven flowing and three pumping wells were burned, with all their machinery, engine houses, derricks, &c., and as the burning oil ran out over the flats, covering even the whole surface of the creek, the scene presented was as grand as it was terrible. The Blood well, No. 1, flowed about 1,000 barrels per day and the Blood well No. 2, abont 600 barrels. None of these wells have yielded any oil since they were burned. There are ten or twelve abandoned wells on this portion of the farm, some of which formerly produced oil, and are now again being tested. Seven new wells are also being put down.

The Tarr farm, above and adjoining the Blood farm, was formerly quite productive, but is now yielding on-

ly about 200 barrels of oil per day. What is known as the Phillip's lease, though now held by other parties, extends the whole length of the farm upon the creek, with a depth of about seventy-five feet. On this lease there are three wells, two of which were put down in 1861, and the third early in the last summer. The Phillip's well, No. 1, on the lower portion of this lease, formerly yielded four hundred barrels per day, but is now unworked. The second well, opened in October, 1861, some distance above, flowed for a time 2,000 barrels per day, but was stopped off in consequence of the low price of oil, and thereafter its highest yield was 400 barrels per day, from which point it gradually declined, and in a few months ceased altogether. The third well, known as the Woodford well, opened in April last, yielded some oil, but it being found necessary to draw the tubing in May, quite a number of wells adjacent were flooded with water. About the first of July the well was retubed, and for three months yielded from 50 to 100 barrels per day, but is now doing nothing, and the tubing having been drawn, several wells in the vicinity have been again flooded. The Slemmer well, the Janes well, and the Cottrell well, are now idle. The Cresent well, formerly yielding 300 barrels per day, is not now worked The Eagle well is pumping 30 barrels; the Kirwin, No. 3, 20 barrels; the Pierson, 18; the Elephant, 10; and the Anaconda, seven barrels. The Union, formerly flowing 200 barrels per day, is now being tested, and mensures are in progress also to restore, if possible, the Dinsmore, Globe, Raymond and Conewago wells, largely productive in 1861 and 1862, but since unworked. This property has heretofore yielded a very large amount of oil, and has the appearance now of having been overworked, while the large number of open wells allows the escape of immense quantities of gas and the introduction of water into the oil veins, tending materially to impair the value of the property as oil producing territory. The product of the farm in 1863 was upwards of 1,000 barrels per day, and during the last summer about 300 barrels per day, but at present its daily yield does not exceed about 175 barrels."

The following is taken from the *American Exchange and Review.*—The development of the oil fissures along the tributaries of the Monongahela in southwestern Pennsylvania—though it cannot be said that such development is fairly begun—is already affording incidents which demonstrate the rich oil bearing character of the territory. Next spring this region will exhibit a scene of wonderful activity. Along the Big Whitely, Greene county, several derricks are erected and experienced oil men are drilling with strengthening confidence. Some parties, we learn, have leased the Gerrard farm on this creek. The farm is a kind of peninsula, having one or more natural oil springs upon it. It is not likely that operations here will be conducted in the rude and defective manner which characterized the first borings upon the Dunkard, by which the full yields of the wells of amber oil have been checked. The Maple Farm Oil Co., are placing their engines in position as fast as possible. The Kramer well on the Mapel Farm, from which the tubing had been removed in order to sink deeper, has made another and very fine strike of oil at a depth of 525 feet. In a few days this well will be again pumped, with every indication of a large yield The Lucas well, not far off the former, has struck a fine vein of lubricating oil at a depth of only 129 feet. It is now pumping 7 barrels per day, and increasing the quantity.

The Winslow well has now been bored to the depth of 725 feet, and is the deepest well thus far on Dunkard creek. The auger in this well has passed through three different veins of oil, and has now struck the fourth, which by the operator, an experienced oil well borer, is considered one of the finest strikes on the creek, gas and oil having been struck simultaneously

Fayette county will probably not be much behind Greene county in oil production. There has been a very promising strike on the farm of Mr. James Crow, on Georges creek—the lease of the mineral rights on most of this farm is held by the South Western Oil Company. It is stated that when the auger had descended to the depth of about 325 feet, large quantities of gas and some oil begin to issue from the mouth of the well, and increased rapidly. Mr. Crow, who was present, fearing an accident from the vicinity of a stove to the derrick, hurried every one away who gathered to see the sight, and not one minute to soon, for the gas and oil ignited by the fire in the stove, exploded with a most terrific noise, throwing the flames over 60 feet high and scattering the flaming oil in every direction, and setting fire to the derrick, engine house, &c. Mr. Crow had a narrow escape. We learn that it has been deemed advisable to proceed farther with the drilling. A number of other wells are being bored on the creek, with the best indications of securing oil.

The following is a correspondence of the office of Internal Revenue, on the subject of Stamps on leases of oil or coal lands, &c.—the subject being somewhat complicated by the contingent character of the rental value:

FRANKLIN, PA., Dec. 1, 1864.

Hon. J. J. Lewis, Commissioner of Internal Revenue.

Sir:—We respectfully submit for your determination the subjoined queries:

First—Can an instrument, document or paper made, signed or issued without having thereupon a stamp for denoting the duty chargeable thereon, be made valid and of effect by the subsequent affixing and cancelling of the proper stamp?

Second—What description of stamp is required for leases of land, whether perpetual or for a term of years, where the rental consists of a certain proportion of the oil or minerals that may be obtained therefrom?

Third—What description of stamp is required to be affixed to assignments and transfers of such leases?

FELTON & MONTGOMERY.

TREASURY DEPARTMENT, OFFICE OF INTERNAL REVENUE, Washington, Dec. 7, 1864.

Sirs:—I reply to your letter of December 1st, that the law requires all instruments, documents or papers subject to stamp duty to be stamped at the time they are made, signed or issued, and if once made invalid by the non affixing by the proper stamp at that time, it cannot, after made and issued, be rendered valid by a subsequent affixing and cancelling of the proper stamp, unless such instrument were made and issued prior to the passage of the present law, in which case it may be stamped under the provisions of section 163 of the act of June 30.

In leases of coal or oil lands, where the consideration paid or to be paid is a proportionate share of the product of the land, the stamp duty is determined by the rental value, which is the value of the proportionate share so paid or to be paid.

The assignment of such a lease requires the same stamp as the original lease.

When such lands are undeveloped, such rental must be estimated, and the safer course is to present the instrument to the Collector of the proper district under section 162. JOSEPH J. LEWIS.

On the subject of the estimated rental value of oil lands, Commissioner Lewis says: "If the land has been worked before the lease is made, or if the original lessee in such case underlets or assigns his lease, or a portion or undivided interest in it, the Collector will in such case have some reliable data to start upon; but in all cases he should estimate from the best information he can get, the probable average rental value; and of course, in doing this, he will have regard to his own knowledge of the premises, the information derived from the parties and others, and the stimulations of the lease—and if the rent is payable in oil, the average market value of the oil is an element in the calculation; and in cases where he is in doubt, he will of course receive such instructions as may be desired from this office.

"Such leases, whether of oil, coal or mineral lands, are held to be subject to stamp duty as leases, and a stamp as an agreement or contract, is of course insufficient."

The New York and Philadelphia Petroleum Company, comes forth under the combined auspices of leading bankers and capitalists of the two cities named in the Company's title, and shows a selection of properties whose value has been proved sufficiently to warrent the expressed confidence of the Trustees in their ability to declare large and regular monthly dividends. The estates are in the Venango county region, the company's interests, embracing fee simple territory, leaseholds, producing wells, borings at various stages, admirable machinery, &c. We insert a brief summary of these:

No. 1.—Thirty acres of bottom land, in fee, on the Alleghany river, having a water-frontage of nearly one mine. New 10 horse power engine and fixtures. Two wells sunk to the depth of 300 feet, and already filled with oil. Room for forty more wells.

No. 2.—Three hundred and twenty acres of rich Oil Land in fee, lying nearly opposite the above, having a mile of water-frontage on Prather and Bennett runs. Well supplied with timber. Room for 100 wells on bottom lands.

No. 3.—One-sixteenth lease interest on the farmous "Widow McClintock Farm," Oil creek. One well down and testing; another just ready to tube; a third just started. Two first-class engines. Tubing tools, fixtures, team, wagons, &c.

No. 4.—Same interest on lease on the well known "Hamilton McClintock Farm," Oil creek. One well now being tested; already yielding twelve barrels daily, and rapidly increasing. Others going down. Two new engines with figures complete.

No. 5.—One-twelfth of two leases on the Clapp Farm, near the great Williams and Stanton 100 barrel wells. On this property is "Sherman Well No. 2," now down five hundred feet. Engine, &c., &c. Room for more wells.

No. 6.—One sixteenth of the fee in fifty-seven acres of coal land, adjoining the Cranberry Coal Company's beds. The property is of the utmost value to the operations, supplying coal at all seasons, and when the works of other companies are forced to be idle for want of fuel.

The first two estates show a splendid stretch of two miles of water-front in a neighborhood where, lately, two flowing wells were struck, and towards which spot several companies are hastening their engines.

By the foregoing schedule it will be perceived that the company's lease-holds are upon the most noted of the Oil Creek farms. Messrs. A. H. Nicolay of New York, and J. P. McF. Mehaffey of Philadelphia, who constituted an investigating committee to examine the Company's property, in their report speak as follows in relation to these Oil creek properties:

"We next visited the wells on the "Widow McClintock farm," Oil creek, numbered "3" on the company's map, and there found one well down and testing, and another to which the workmen were about applying a patent ejector. A third was going down rapidly, with strong indications of a successful result. Here were also two new engines, and one somewhat worn, besides a large amount of tubing and tools. One of the newly started wells was yielding from ten to fifteen barrels daily. There is still room for a number of additional wells on this lease."

"In close proximity, the celebrated "Hammond well," which we visited, and which was struck this spring, flows daily from three to four hudred barrels."

"We now made our way to the "Hamilton McClintock farm," inspecting the property marked "No. 4" on the map of your company, where we found one well just being tested, a second already down, and the driving-pipe on the ground for a third. A fourth, the drilling of which had just been completed, had been tubed, and, as we were informed, had for a few minutes thrown oil to a height of 20 feet above the derrick, and at a rate of a barrel per minute, when the tubing burst, and had to be drawn. It will be immediately retubed, and the agent assured us that he fully expected a 500 barrel well. Here were also two new engines, and, as at the other wells, a large amount of tubing, tools, and fixtures. There is room for a number of other wells."

"From this point we proceeded to the "Sherman well, No. 2," on the "Clapp farm," east side of Oil creek, marked "No. 5" on your Map, and adjacent to the well-known Stanton and Williams wells. The latter have flowed 100 barrels daily for a very long period, and are still yielding a good supply of oil. Here, the company owns two leases, on one of which a well is sunk to the depth of 500 feet, and is fitted with a new engine, and all needful tubing and fixtures. Room is reserved for more wells. The one already down will now be tested, and from the indications displayed while drilling, it is confidently believed that a large revenue will be derived therefrom."

The last enumerated of the company's properties, No. 6, is far from being the least, and has a special and peculiar value which will commend it to capitalists who are not oil-land investors. These coal beds not only will supply economically the company's own works, but will provide coal for a region where it is needed. Concerning this land the committee remark:

"A large coal vein extends over two-thirds of this tract, from which your company can procure fuel with its own teams, hauling it to the farms on Oil creek. This struck us as affording a marked advantage to its operations, since we saw many works along our route lying idle, because of the impossibility of procuring coals at any price, and entailing upon their owners a heavy daily loss. We believe that from its coal lands alone, your company can handsomely remunerate its stockholders."

The officers of the company are, Albert H. Nicolay, Esq., President. Mr. Nicolay is the head of the celebrated New York house of Albert H. Nicolay & Co. Vice President, Andrew Mehaffey, Esq., an esteemed citizen of Philadelphia. A. V. Stout, Esq., Treasurer, a sound financier, President of Shoe and Leather Bank, New York. Secretary, Edmund C. Stedman, Esq., who is the Secretary of the New York Petroleum Stock Board.

Capital stock, 300,000 shares. Subscription, $2 per share. Par of shares $5.

The reserve for working capital is $100,000. In relation to this important matter, the Trustees publish the annexed card:

No. 52 William Street, New York, Dec. 14, 1864.

To the Subscribers to the Stock of the New York and Philadelphia Petroleum Co.:

It is advertised that 50,000 shares of the capital stock of this Company will be reserved as Working Capital. To prevent misconception, the management desire to state that One Hundred Thousand Dollars in cash ($100,000) will be deposited with the Company's bankers, to be used only in the development of the magnificent property belonging to the Company, and for the legitimate contingent expenses.

A large majority of the stock having been taken, the books will soon be closed.

Albert H. Nicolay, President, for the Trustees.
E. C. Stedman, Secretary.

Trustees—Francis A. Palmer, President Broadway Bank, New York; Nathan Randall, Ex President U. S. Telegraph Company, New York; Albert H. Nicolay, of A. H. Nicolay & Co., Brokers and Auctioneers, 52 William street, New York; Eugene J. Jackson, of Polhamius & Jackson, Bankers and Brokers, 43 Exchange Place, New York; Edmund C. Stedman, Secretary New York Petroleum Stock Board and Broker, 30 Broad street, New York; Andrew Mehaffey, Philadelphia; Francis A. Godwin, Philadelphia; Robert Clarkson, of Clarkson, of Clarkson & Co., Bankers, 121 South Third street, Philadelphia; James M. Clark, Oil City. Bankers—Shoe and Leather Bank, New York; Clarkson & Co., Philadelphia.

PETROLEUM AS A FUEL FOR STEAMSHIPS.

Two very interesting papers were read at the Royal United Service Institution, London, England, by Captain Selwyn, R. N., and Mr. Richardson, upon the subject of petroleum as a fuel for steamships. The Duke of Somerset occupied the chair, the theatre being thronged with gentlemen of position, who evinced considerable interest in the proceedings.

Captain Selwyn, in commencing his paper, adverted to the great facts attendant upon the introduction of petroleum into this country. It was not a discovery of modern years as was erroneously supposed by many people, but had been well known for ages, and was quoted in the scriptures under the title of naptha. Many ancient philosophers, including Pliny, mentioned it, and therefore it was by no means a new substance, though it had been reserved for the present age to utilise it to its full value. By some, petroleum had been supposed to be the produce of extinct collieries, and it was a fact that oil was obtained in this country in very large quantities from coal at a low red heat temperature. It would be vain to deplore the great waste that had been going on for some years past at the various pitts by burning the small coal. If any one were to set fire to a forest, he would be called a despoiler, yet the small coal burnt at the mouth of the pit was but a forest in another form, and contained a mine of wealth to the adventurous capitalist. It would be needless here to review the many undertakings by companies established for the purpose of distilling coal oil, but Mr. Young's patent having expired, a wide field was opened for those who sought to make large fortunes. There were many recommendations for coal oil, which was rich in color, while petroleum was not so much so, and upon the score of safety if the volatile matter were driven off the crude oil, there would be no danger of any explosions. Leaving these general remarks he (Captain Selwyn) would come at once to the subject of the present lecture—viz., the use of petroleum as a fuel for steamships. Now, the first question to be settled was "How many pounds of water could be evaporated by a given quantity of the fuel?" The next was as to the price of such fuel. It must be remembered that in all the experiments that had been made as yet the boiler used had been a tubular boiler, which was the worst of all kinds for procuring steam. Upon the capabilities of the oil, it had been declared that 58 gallons of the crude product were equal to one ton of coals. And in the experiments made to determine this, the apparatus used was expressly constructed to consume coal, and not oil. If all the points were fully considered, it would be found that the great waste experienced in burning coal made up in a great measure for the difference in price between it and oil. The lecturer was well aware that the idea of burning petroleum as a steam fuel had been ridiculed by many men of distinction upon the score mainly of cost; but the price of an article upon its introduction must not be taken by any means to estimate its ultimate cost. Let them remember that now a ship could only carry fuel for nine to thirteen days, and no ship could carry sufficient coal for a voyage to Australia or for a long blockade in time of war. Now, with petroleum a ship could carry fuel sufficient for forty to fifty days, and in naval warfare a great benefit and advantage would be derived from a fluid form of fuel, carried as it would be in a very small space. In addition to its occupying but little room, petroleum would be found to be highly preservative of iron, and as a fuel itself would not be nearly so much trouble as coal. The engine would not require so many stokers, and there would be no nuisance in getting up the ashes. Some people objected to the oil as a fuel on the score of danger, but all danger from crude was easily removable, and, indeed, it was not likely any danger would arise even if a red-hot shot were to touch the crude oil. A white vapour with an unpleasant smell would be thrown off, and unless flame touched this white vapour no explosion would ensue. The great drawback was the form of a boiler that had been used, and a new boiler (under a new system), invented by Mr. Field, had been applied successfully to the land fire engines. There were advantages enough in the fluid fuel to warrent its use even at the present prices. Prices were quoted now at 18*l.* per ton crude, and 23*l.* refined, but then the stowage room would make up for the difference, and the lighter portion of the oil could be used as an illuminative power in the same ship. With ordinary care there need be no danger, as the specific gravity was easily ascertainable by means of the hydrometer, and the specific gravity was the test of the dangerous properties of the evil. (The sample of oil on the table had extinguished a lighted match thrust into it.) The lecturer had received a letter from America giving an outline of some experiments made with oil under steam boilers; it was alleged that the saving would be 9-10ths in bulk and ⅞ths in cost in the voyage of a steamship from America to Liverpool. He expected to have the report soon, and while the company would take assertions *cum grano salis*, yet they had been made by a gentleman of reliability and honor. The lecturer then concluded an able paper by showing the effect of Mr. Field's new boiler, and sat down amid applause.

Mr. Richardson said that in his paper he should follow closely in the wake of Captain Selwyn. He would remark that the best samples of the oil put out a lighted paper, and in its explosive qualities the vapour resembled common gas, but this vapour was so light that in a place well ventilated it would pass off without ignition. When petroleum was kept in iron cases no vapour could escape, and, therefore, no danger would arise. He (Mr. Richardson) would take the three distinctive properties of petroleum, and just describe them passingly. The first was the spirit, which is easily ignited, and was extensively used as a substitute for turpentine. The second was a burning oil in several varieties; and the last the thick oil, which did not vapourise unless at a very high temperature. The heavy petroleum neutralised the lighter kinds, and was extremely valuable as a steam fuel. (The lecturer here showed by diagrams the process of burning the oil and evaporating the lighter portions in an American engine, which he pronounced to be dangerous, and to require constant attention.) In making a grate for the consumption of the oil, it was necessary to have a porous substance, and it was found that the hard kinds burnt slowly, and the softer quickly, but the best substance of all was the petroleum coke, a sample of which he produced. (The lecturer again explained by means of the various diagrams the plan adopted for the prevention of the creation of too much vapour. The vapour chamber being placed at the top of the fuel succeeded better than in any other way.) Upon the occasion of the experiment he succeeded in getting up steam in 1½ hour, and full steam in another hour. All the crude oils (except Rangoon, which was to thick) burnt equally well in the grate; and upon the subject of the porous material he produced a piece of porous substance about four inches long, and as thick as a large rushlight, placed in a small jar of crude oil, leaving about half projecting. This being lighted, burnt well, and it was that immersed in a pint of the oil it would continue to burn until the oil was exhausted. Now the coal grate was 9 ft., to the oil grate's 2 ft. and the engineers did not think steam could have been got at the pressure possible. As regarded the experiments at Woolwich and Chelsea, the boilers used had been constructed for coal, and were not calculated for burning petroleum, and he (Mr. Richardson) foresaw that a boiler must be expressly made for petroleum, as it required a slower draught than coal. As to the advantages of petroleum in stowage, it might be stated as an example that in the Great Eastern steamship 2000 tons of oil would be quite equal to the 10,000 tons of coal now required. The objections as to price were easily settled. An English skipper was not likely to take Pennsylvania crude oil at 18*l.* to 20*l.* per ton when he could get English crude oil, as good, for 9*l.* or 10*l*; and as regarded the Royal Navy, such a quantity of the fluid fuel could be taken as stowage that coaling stations would be rendered unnecessary. If the waste in coal, difference in stowage, and labour were taken into consideration, it would be found that the advantages were immensely in favour of petroleum fuel; and the lecturer felt that a vital change would speedily take place in the mode of procuring steam for the ships of the navy and merchant service.—*London Grocer.*

THE TROUBLES OF SHIPPERS OF OIL FROM THE WELLS.

The quantity of oil accumulated in the oil region, waiting transportation to market, is beyond precedent.

ly about 200 barrels of oil per day. What is known as the Phillip's lease, though now held by other parties, extends the whole length of the farm upon the creek, with a depth of about seventy-five feet. On this lease there are three wells, two of which were put down in 1861, and the third early in the last summer. The Phillip's well, No. 1, on the lower portion of this lease, formerly yielded four hundred barrels per day, but is now unworked. The second well, opened in October, 1861, some distance above, flowed for a time 2,000 barrels per day, but was stopped off in consequence of the low price of oil, and thereafter its highest yield was 400 barrels per day, from which point it gradually declined, and in a few months ceased altogether. The third well, known as the Woodford well, opened in April last, yielded some oil, but it being found necessary to draw the tubing in May, quite a number of wells adjacent were flooded with water. About the first of July the well was retubed, and for three months yielded from 50 to 100 barrels per day, but is now doing nothing, and the tubing having been drawn, several wells in the vicinity have been again flooded. The Slemmer well, the Janes well, and the Cottrell well, are now idle. The Cresent well, formerly yielding 300 barrels per day, is not now worked The Eagle well is pumping 30 barrels; the Kirwin, No. 3, 20 barrels; the Pierson, 18; the Elephant, 10; and the Anaconda, seven barrels. The Union, formerly flowing 200 barrels per day, is now being tested, and measures are in progress also to restore, if possible, the Dinsmore, Globe, Raymond and Conewago wells, largely productive in 1861 and 1862, but since unworked. This property has heretofore yielded a very large amount of oil, and has the appearance now of having been overworked, while the large number of open wells allows the escape of immense quantities of gas and the introduction of water into the oil veins, tending materially to impair the value of the property as oil producing territory. The product of the farm in 1863 was upwards of 1,000 barrels per day, and during the last summer about 300 barrels per day, but at present its daily yield does not exceed about 175 barrels."

The following is taken from the *American Exchange and Review*.—The development of the oil fissures along the tributaries of the Monongahela in southwestern Pennsylvania—though it cannot be said that such development is fairly begun—is already affording incidents which demonstrate the rich oil bearing character of the territory. Next spring this region will exhibit a scene of wonderful activity. Along the Big Whitely, Greene county, several derricks are erected and experienced oil men are drilling with strengthening confidence. Some parties, we learn, have leased the Gerrard farm on this creek. The farm is a kind of peninsula, having one or more natural oil springs upon it. It is not likely that operations here will be conducted in the rude and defective manner which characterized the first borings upon the Dunkard, by which the full yields of the wells of amber oil have been checked. The Maple Farm Oil Co., are placing their engines in position as fast as possible. The Kramer well on the Mapel Farm, from which the tubing had been removed in order to sink deeper, has made another and very fine strike of oil at a depth of 525 feet. In a few days this well will be again pumped, with every indication of a large yield The Lucas well, not far off the former, has struck a fine vein of lubricating oil at a depth of only 129 feet. It is now pumping 7 barrels per day, and increasing the quantity.

The Winslow well has now been bored to the depth of 725 feet, and is the deepest well thus far on Dunkard creek. The auger in this well has passed through three different veins of oil, and has now struck the fourth, which by the operator, an experienced oil well borer, is considered one of the finest strikes on the creek, gas and oil having been struck simultaneously

Fayette county will probably not be much behind Greene county in oil production. There has been a very promising strike on the farm of Mr. James Crow, on Georges creek—the lease of the mineral rights on most of this farm is held by the South Western Oil Company. It is stated that when the auger had descended to the depth of about 325 feet, large quantities of gas and some oil begin to issue from the mouth of the well, and increased rapidly. Mr. Crow, who was present, fearing an accident from the vicinity of a stove to the derrick, hurried every one away who gathered to see the sight, and not one minute to soon, for the gas and oil ignited by the fire in the stove, exploded with a most terrific noise, throwing the flames over 60 feet high and scattering the flaming oil in every direction, and setting fire to the derrick, engine house, &c. Mr. Crow had a narrow escape. We learn that it has been deemed advisable to proceed farther with the drilling. A number of other wells are being bored on the creek, with the best indications of securing oil.

The following is a correspondence of the office of Internal Revenue, on the subject of Stamps on leases of oil or coal lands, &c.—the subject being somewhat complicated by the contingent character of the rental value:

FRANKLIN, PA., Dec. 1, 1864.

Hon. J. J. Lewis, Commissioner of Internal Revenue.

Sir:—We respectfully submit for your determination the subjoined queries:

First—Can an instrument, document or paper made, signed or issued without having thereupon a stamp for denoting the duty chargeable thereon, be made valid and of effect by the subsequent affixing and cancelling of the proper stamp?

Second—What description of stamp is required for leases of land, whether perpetual or for a term of years, where the rental consists of a certain proportion of the oil or minerals that may be obtained therefrom?

Third—What description of stamp is required to be affixed to assignments and transfers of such leases?

FELTON & MONTGOMERY.

TREASURY DEPARTMENT, OFFICE OF INTERNAL REVENUE,
Washington, Dec. 7, 1864.

Sirs:—I reply to your letter of December 1st, that the law requires all instruments, documents or papers subject to stamp duty to be stamped at the time they are made, signed or issued, and if once made invalid by the non affixing by the proper stamp at that time, it cannot, after made and issued, be rendered valid by a subsequent affixing and cancelling of the proper stamp, unless such instrument were made and issued prior to the passage of the present law, in which case it may be stamped under the provisions of section 163 of the act of June 30.

In leases of coal or oil lands, where the consideration paid or to be paid is a proportionate share of the product of the land, the stamp duty is determined by the rental value, which is the value of the proportionate share so paid or to be paid.

The assignment of such a lease requires the same stamp as the original lease.

When such lands are undeveloped, such rental must be estimated, and the safer course is to present the instrument to the Collector of the proper district under section 162. JOSEPH J. LEWIS.

On the subject of the estimated rental value of oil lands, Commissioner Lewis says: "If the land has been worked before the lease is made, or if the original lessee in such case underlets or assigns his lease, or a portion or undivided interest in it, the Collector will in such case have some reliable data to start upon; but in all cases he should estimate from the best information he can get, the probable average rental value; and of course, in doing this, he will have regard to his own knowledge of the premises, the information derived from the parties and others, and the stimulations of the lease—and if the rent is payable in oil, the average market value of the oil is an element in the calculation; and in cases where he is in doubt, he will of course receive such instructions as may be desired from this office.

"Such leases, whether of oil, coal or mineral lands, are held to be subject to stamp duty as leases, and a stamp as an agreement or contract, is of course insufficient."

The New York and Philadelphia Petroleum Company, comes forth under the combined auspices of leading bankers and capitalists of the two cities named in the Company's title, and shows a selection of properties whose value has been proved sufficiently to warrent the expressed confidence of the Trustees in their ability to declare large and regular monthly dividends. The estates are in the Venango county region, the company's interests, embracing fee simple territory, leaseholds, producing wells, borings at various stages, admirable machinery, &c. We insert a brief summary of these:

No. 1.—Thirty acres of bottom land, in fee, on the Alleghany river, having a water-frontage of nearly one mine. New 10 horse power engine and fixtures. Two wells sunk to the depth of 300 feet, and already filled with oil. Room for forty more wells.

No. 2.—Three hundred and twenty acres of rich Oil Land in fee, lying nearly opposite the above, having a mile of water-frontage on Prather and Bennett runs. Well supplied with timber. Room for 100 wells on bottom lands.

No. 3.—One-sixteenth lease interest on the farmous "Widow McClintock Farm," Oil creek. One well down and testing; another just ready to tube; a third just started. Two first-class engines. Tubing tools, fixtures, team, wagons, &c.

No. 4.—Same interest on lease on the well known "Hamilton McClintock Farm," Oil creek. One well now being tested; already yielding twelve barrels daily, and rapidly increasing. Others going down. Two new engines with figures complete.

No. 5.—One-twelfth of two leases on the Clapp Farm, near the great Williams and Stanton 100 barrel wells. On this property is "Sherman Well No. 2," now down five hundred feet. Engine, &c., &c. Room for more wells.

No. 6.—One sixteenth of the fee in fifty-seven acres of coal land, adjoining the Cranberry Coal Company's beds. The property is of the utmost value to the operations, supplying coal at all seasons, and when the works of other companies are forced to be idle for want of fuel.

The first two estates show a splendid stretch of two miles of water-front in a neighborhood where, lately, two flowing wells were struck, and towards which spot several companies are hastening their engines.

By the foregoing schedule it will be perceived that the company's lease-holds are upon the most noted of the Oil Creek farms. Messrs. A. H. Nicolay of New York, and J. P. McF. Mehaffey of Philadelphia, who constituted an investigating committee to examine the Company's property, in their report speak as follows in relation to these Oil creek properties:

"We next visited the wells on the "Widow McClintock farm," Oil creek, numbered "3" on the company's map, and there found one well down and testing, and another to which the workmen were about applying a patent ejector. A third was going down rapidly, with strong indications of a successful result. Here were also two new engines, and one somewhat worn, besides a large amount of tubing and tools. One of the newly started wells was yielding from ten to fifteen barrels daily. There is still room for a number of additional wells on this lease."

"In close proximity, the celebrated "Hammond well," which we visited, and which was struck this spring, flows daily from three to four hudred barrels."

"We now made our way to the "Hamilton McClintock farm," inspecting the property marked "No. 4" on the map of your company, where we found one well just being tested, a second already down, and the driving-pipe on the ground for a third. A fourth, the drilling of which had just been completed, had been tubed, and, as we were informed, had for a few minutes thrown oil to a height of 20 feet above the derrick, and at a rate of a barrel per minute, when the tubing burst, and had to be drawn. It will be immediately retubed, and the agent assured us that he fully expected a 500 barrel well. Here were also two new engines, and, as at the other wells, a large amount of tubing, tools, and fixtures. There is room for a number of other wells."

"From this point we proceeded to the "Sherman well, No. 2," on the "Clapp farm," east side of Oil creek, marked "No. 5" on your Map, and adjacent to the well-known Stanton and Williams wells. The latter have flowed 100 barrels daily for a very long period, and are still yielding a good supply of oil. Here, the company owns two leases, on one of which a well is sunk to the depth of 500 feet, and is fitted with a new engine, and all needful tubing and fixtures. Room is reserved for more wells. The one already down will now be tested, and from the indications displayed while drilling, it is confidently believed that a large revenue will be derived therefrom."

The last enumerated of the company's properties, No. 6, is far from being the least, and has a special and peculiar value which will commend it to capitalists who are not oil-land investors. These coal beds not only will supply economically the company's own works, but will provide coal for a region where it is needed. Concerning this land the committee remark:

"A large coal vein extends over two-thirds of this tract, from which your company can procure fuel with its own teams, hauling it to the farms on Oil creek. This struck us as affording a marked advantage to its operations, since we saw many works along our route lying idle, because of the impossibility of procuring coals at any price, and entailing upon their owners a heavy daily loss. We believe that from its coal lands alone, your company can handsomely remunerate its stockholders."

The officers of the company are, Albert H. Nicolay, Esq., President. Mr. Nicolay is the head of the celebrated New York house of Albert H. Nicolay & Co. Vice President, Andrew Mehaffey, Esq., an esteemed citizen of Philadelphia. A. V. Stout, Esq., Treasurer, a sound financier, President of Shoe and Leather Bank, New York. Secretary, Edmund C. Stedman, Esq., who is the Secretary of the New York Petroleum Stock Board.

Capital stock, 300,000 shares. Subscription, $2 per share. Par of shares $5.

The reserve for working capital is $100,000. In relation to this important matter, the Trustees publish the annexed card:

No. 52 William Street, New York, Dec. 14, 1864.

To the Subscribers to the Stock of the New York and Philadelphia Petroleum Co.:

It is advertised that 50,000 shares of the capital stock of this Company will be reserved as Working Capital. To prevent misconception, the management desire to state that One Hundred Thousand Dollars in cash ($100,000) will be deposited with the Company's bankers, to be used only in the development of the magnificent property belonging to the Company, and for the legitimate contingent expenses.

A large majority of the stock having been taken, the books will soon be closed.

Albert H. Nicolay, President, for the Trustees.
E. C. Stedman, Secretary.

Trustees—Francis A. Palmer, President Broadway Bank, New York; Nathan Randall, Ex President U. S. Telegraph Company, New York; Albert H. Nicolay, of A. H. Nicolay & Co., Brokers and Auctioneers, 52 William street, New York; Eugene J. Jackson, of Polhamius & Jackson, Bankers and Brokers. 43 Exchange Place, New York; Edmund C. Stedman, Secretary New York Petroleum Stock Board and Broker, 30 Broad street, New York; Andrew Mehaffey, Philadelphia; Francis A. Godwin, Philadelphia; Robert Clarkson, of Clarkson, of Clarkson & Co., Bankers, 121 South Third street, Philadelphia; James M. Clark, Oil City. Bankers—Shoe and Leather Bank, New York; Clarkson & Co., Philadelphia.

PETROLEUM AS A FUEL FOR STEAMSHIPS.

Two very interesting papers were read at the Royal United Service Institution, London, England, by Captain Selwyn, R. N., and Mr. Richardson, upon the subject of petroleum as a fuel for steamships. The Duke of Somerset occupied the chair, the theatre being thronged with gentlemen of position, who evinced considerable interest in the proceedings.

Captain Selwyn, in commencing his paper, adverted to the great facts attendant upon the introduction of petroleum into this country. It was not a discovery of modern years as was erroneously supposed by many people, but had been well known for ages, and was quoted in the scriptures under the title of naptha. Many ancient philosophers, including Pliny, mentioned it, and therefore it was by no means a new substance, though it had been reserved for the present age to utilise it to its full value. By some, petroleum had been supposed to be the produce of extinct collieries, and it was a fact that oil was obtained in this country in very large quantities from coal at a low red heat temperature. It would be vain to deplore the great waste that had been going on for some years past at the various pitts by burning the small coal. If any one were to set fire to a forest, he would be called a despoiler, yet the small coal burnt at the mouth of the pit was but a forest in another form, and contained a mine of wealth to the adventurous capitalist. It would be needless here to review the many undertakings by companies established for the purpose of distilling coal oil, but Mr. Young's patent having expired, a wide field was opened for those who sought to make large fortunes. There were many recommendations for coal oil, which was rich in color, while petroleum was not so much so, and upon the score of safety if the volatile matter were driven off the crude oil, there would be no danger of any explosions. Leaving these general remarks he (Captain Selwyn) would come at once to the subject of the present lecture—viz., the use of petroleum as a fuel for steamships. Now, the first question to be settled was "How many pounds of water could be evaporated by a given quantity of the fuel?" The next was as to the price of such fuel. It must be remembered that in all the experiments that had been made as yet the boiler used had been a tubular boiler, which was the worst of all kinds for procuring steam. Upon the capabilities of the oil, it had been declared that 58 gallons of the crude product were equal to one ton of coals. And in the experiments made to determine this, the apparatus used was expressly constructed to consume coal, and not oil. If all the points were fully considered, it would be found that the great waste experienced in burning coal made up in a great measure for the difference in price between it and oil. The lecturer was well aware that the idea of burning petroleum as a steam fuel had been ridiculed by many men of distinction upon the score mainly of cost; but the price of an article upon its introduction must not be taken by any means to estimate its ultimate cost. Let them remember that now a ship could only carry fuel for nine to thirteen days, and no ship could carry sufficient coal for a voyage to Australia or for a long blockade in time of war. Now, with petroleum a ship could carry fuel sufficient for forty to fifty days, and in naval warfare a great benefit and advantage would be derived from a fluid form of fuel, carried as it would be in a very small space. In addition to its occupying but little room, petroleum would be found to be highly preservative of iron, and as a fuel itself would not be nearly so much trouble as coal. The engine would not require so many stokers, and there would be no nuisance in getting up the ashes. Some people objected to the oil as a fuel on the score of danger, but all danger from crude was easily removable, and, indeed, it was not likely any danger would arise even if a red-hot shot were to touch the crude oil. A white vapour with an unpleasant smell would be thrown off, and unless flame touched this white vapour no explosion would ensue. The great drawback was the form of a boiler that had been used, and a new boiler (under a new system), invented by Mr. Field, had been applied successfully to the land fire engines. There were advantages enough in the fluid fuel to warrent its use even at the present prices. Prices were quoted now at 18*l.* per ton crude, and 23*l.* refined, but then the stowage room would make up for the difference, and the lighter portion of the oil could be used as an illuminative power in the same ship. With ordinary care there need be no danger, as the specific gravity was easily ascertainable by means of the hydrometer, and the specific gravity was the test of the dangerous properties of the evil. (The sample of oil on the table had extinguished a lighted match thrust into it.) The lecturer had received a letter from America giving an outline of some experiments made with oil under steam boilers; it was alleged that the saving would be 9-10ths in bulk and ⅞ths in cost in the voyage of a steamship from America to Liverpool. He expected to have the report soon, and while the company would take assertions *cum grano salis*, yet they had been made by a gentleman of reliability and honor. The lecturer then concluded an able paper by showing the effect of Mr. Field's new boiler, and sat down amid applause.

Mr. Richardson said that in his paper he should follow closely in the wake of Captain Selwyn. He would remark that the best samples of the oil put out a lighted paper, and in its explosive qualities the vapour resembled common gas, but this vapour was so light that in a place well ventilated it would pass off without ignition. When petroleum was kept in iron cases no vapour could escape, and, therefore, no danger would arise. He (Mr. Richardson) would take the three distinctive properties of petroleum, and just describe them passingly. The first was the spirit, which is easily ignited, and was extensively used as a substitute for turpentine. The second was a burning oil in several varieties; and the last the thick oil, which did not vapourise unless at a very high temperature. The heavy petroleum neutralised the lighter kinds, and was extremely valuable as a steam fuel. (The lecturer here showed by diagrams the process of burning the oil and evaporating the lighter portions in an American engine, which he pronounced to be dangerous, and to require constant attention.) In making a grate for the consumption of the oil, it was necessary to have a porous substance, and it was found that the hard kinds burnt slowly, and the softer quickly, but the best substance of all was the petroleum coke, a sample of which he produced. (The lecturer again explained by means of the various diagrams the plan adopted for the prevention of the creation of too much vapour. The vapour chamber being placed at the top of the fuel succeeded better than in any other way.) Upon the occasion of the experiment he succeeded in getting up steam in 1½ hour, and full steam in another hour. All the crude oils (except Rangoon, which was to thick) burnt equally well in the grate; and upon the subject of the porous material he produced a piece of porous substance about four inches long, and as thick as a large rushlight, placed in a small jar of crude oil, leaving about half projecting. This being lighted, burnt well, and it was that immersed in a pint of the oil it would continue to burn until the oil was exhausted. Now the coal grate was 9 ft., to the oil grate's 2 ft. and the engineers did not think steam could have been got at the pressure possible. As regarded the experiments at Woolwich and Chelsea, the boilers used had been constructed for coal, and were not calculated for burning petroleum, and he (Mr. Richardson) foresaw that a boiler must be expressly made for petroleum, as it required a slower draught than coal. As to the advantages of petroleum in stowage, it might be stated as an example that in the Great Eastern steamship 2000 tons of oil would be quite equal to the 10,000 tons of coal now required. The objections as to price were easily settled. An English skipper was not likely to take Pennsylvania crude oil at 18*l.* to 20*l.* per ton when he could get English crude oil, as good, for 9*l.* or 10*l*; and as regarded the Royal Navy, such a quantity of the fluid fuel could be taken as stowage that coaling stations would be rendered unnecessary. If the waste in coal, difference in stowage, and labour were taken into consideration, it would be found that the advantages were immensely in favour of petroleum fuel; and the lecturer felt that a vital change would speedily take place in the mode of procuring steam for the ships of the navy and merchant service.—*London Grocer.*

THE TROUBLES OF SHIPPERS OF OIL FROM THE WELLS.

The quantity of oil accumulated in the oil region, waiting transportation to market, is beyond precedent.

This blockade at the wells is caused in part by the requisitions made on the Atlantic and Great Western Railroad for cars at stations west of Corry.

By putting their cars on long mileage, say to Akron, which is 141 miles west of Corry, or to Gallion which is 223 miles west of Corry, the Atlantic and Great Western Railroad, it is said, employ their cars more profitably than by sending them into the oil region.

In one month, in 1864, the Atlantic and Great Western Railroad forwarded 92,271 barrels of oil, and for three consecutive months the average number of barrels forwarded over that road was 87,378. The whole number of barrels of oil carried over the Atlantic and Great Western Railroad in ten months, in 1864, was 588,187 barrels, equal to an average of 58,818 barrels for each month. The number of barrels of oil carried over it in the whole year was doubtless about 700,000, or say one-half the product of the entire oil region.

Well oil has become too important a staple to allow its transportation to market to depend upon the caprices of relative railroad profits, and there is needed for it a road furniture devoted to its special service, just as there is a special equipment for coal service on carriers from the collieries to the markets.

True, great embarrassments beset railroad men in these days, and, moreover, the Atlantic and Great Western Railroad is a new road, though not quite so new, from Corry east, as the Philadelphia and Erie Railroad. But the oil companies that own the producing wells have amazing credit, and as their dividends can only be paid out of the proceeds of oil sold, accumulation at the wells is not only suggestive of danger of loss from fire, but also from decline of price in the market, owing to the forced detention and accumulation at the wells, for buyers will not concede that oils is worth a high price, when it is known that tens of thousands of barrels are full at the wells, waiting transportation to market.—*U. S. R. R. & Mining Register.*

Hon. Amos Myers, representative in Congress of the Clarion district, in a letter written at the close of December, said: "It seems now to be an established fact that there is oil on the Clarion and its tributaries, and I feel quite safe in predicting that large flowing wells will be struck between now and spring." Intelligence from this region continues to be of a stirring character. On the river, 13 miles north of Brookville, the greasy fluid has been obtained. On the 12th of December the well near Alum Rock, was tubed, the well overflowing the conductor. At Sligo well, on Ecking creek, on removal of the chambers, the oil flowed out, covering the surface of the stream. Every well put down by the body of companies known as the Clarion River Oil Companies has abundant show of oil and gas, at less than 100 feet, with the usual evidence of broken stratification. The drilling tools in many instances dropping 6 inches. The Indian well, at the depth of 140 feet, has struck the fourth vein of oil. Whilst at the Deer Creek well the oil covers half the surface of the river, and can be seen floating for the distance of a mile down the stream, showing in the sunlight all the varied hues of the rainbow. A letter written from there on the 30th of December, says the oil is flowing in such profusion from this well that the people living in the village are dipping it off the stream. We get the above from the American Exchange and Review.

NEW YORK, February 4th, 1865.

MR. EDITOR—A recent letter written by us to a gentleman in Fishkill, was published without our revision, and is vigorously criticised in your last issue by an amateur, "C. E.," to whose communication we owe, perhaps, some notice.

Our statement that "the Petroleum springs of this country have their origin everywhere in bituminous shales or limestone," may be capable of the extraordinary interpretation which "C. E." has put upon it; but common intelligence would have told him that such was not our meaning. For "everywhere," read "in all cases, so far as we at present know," and you will have a statement more suited to the comprehension of beginners in English composition and Geology. Since the 2d December, when our letter was written, we have found in one instance (in a distant locality,) Petroleum of a peculiar sort, under circumstances which indicate an origin different from that which we then mentioned—but as a general proposition we still abide by our statement. As to the non-bituminous limestone of the Hudson, or of any other district, we have never claimed that "this strata" contained Petroleum.

We decline, "as Geologists who have made a survey of the region under discussion," to give "C. E." "a full, clear and distinct result of that survey."—Parties who pay us for our services, are entitled to all the "results" of our experience and labor. Professional geologists, and the scientific public are welcome to all the information we have time to give them, subject to the RIGHT OF PROPERTY which our patrons have in our reports. "C. E." belongs to neither class, and we owe him nothing. Since he has volunteered a display of his critical knowledge, it is he who owes the public an explanation. Let him inform himself and then the rest of the world,

1—What is an "upheaval of nature?"

2—What "upheaval" did he or any other man ever find in the Pennsylvania Oil Region?

3—How shall we describe an "oleaginous matter" which is "not Petroleum but Asphaltum?"

4—How can "oleaginous Asphaltum" be formed from "traces of iron, or, it may be, ore,"—from "decaying and decayed vegetable matter," or from "the oxide of the metals contained in the rocks," &c. &c. ?

We think, however, that "C. E." asks too much in the following:

"Let us then, setting aside the question whether or not they did find oil, have the plain geological facts of what they did discover."

It is not our business to warn the public against speculation, nor to instruct individuals in the principles of Geology. We have made, it is true, some discoveries which may throw light on questions which we do not pretend completely to solve—but we prefer not to advance any "theory," until by careful collation of facts we have established its truth. Meanwhile, persons desiring to see the Petroleum from Fishkill, may call at our office.

Very Respectfully,

ADELBERG & RAYMOND.

MNING.

ANNUAL REPORT OF THE GOULD & CURRY COMPANY.

The stockholders of the Gould & Curry Gold and Silver Mining Company held their annual meeting on Monday, Dec. 19th, at their office in San Francisco. Reports were submitted by Asa T. Lawton, President, J. M. Shotwell, Secretary of the Company, and Charles Bonner, Superintendent of the mine and mill.

PRESIDENT'S REPORT.

The following are extracts from the report of A. T. Lawton, the President:

After a thorough trial it was found that the Veatch process, first introduced, did not save the metal in the ores satisfactory. All this has been taken out, and the whole works converted into wet crushing, with eighty stamps for crushing and forty Hepburn pans for amalgamating. * * * The mill is complete, and is now reducing from ninety to one hundred tons of ore daily, at a cost not exceeding $12 per ton. * * * At present rates paid in Nevada for reducing ores, the Company must save some $30,000 monthly by owning this mill instead of employing outside mills to do the same work. * * * From December 5, 1863, to June 5, 1864, monthly dividends were declared of $31.25 per share ($125 per foot.) Some time in the month of June the mine was found to look less flattering than formerly, and acting with the advice of the Superintendent, the Trustees decided to reduce the dividend to $12.50 ($50 per foot), and to limit the reduction of ores sufficient to pay such regular dividend, complete the Company's works, carry out a thorough system of exploration of the mine, and pay the current expenses of the Company. This dividend was regularly paid for the following five months. In November, finding the expenses in almost every department were being materially reduced, and the surplus funds of the Company increasing, the Trustees thought it advisable and prudent to increase the dividend to $18,75 per share ($75 per foot) This was not done, however, until the Superintendent not only recommended it, but also thought the same dividend could be continued.

The gross product of bullion for the past year has been as follows:

From the Gould & Curry mill	$1,786,374 87
From outside mills	3,097.121 93
From shipment of ores	14,563 71
Total	$4,898,060 51

Details of ores extracted from mine and reduced from December 1, 1863, to December 1, 1864:

	Tons.
Ores on hand Dec. 1, 1863	2,827
Ore produced during the year	64,433
Ores reduced at Gould & Curry mill	2,602½
Ores reduced at custom mills	53,856½
Ores shipped to England (first class)	10½
Cost of extracting ore from mine, per ton	$11 90
Average yield per ton of all ores reduced (66,559½ tons)	73 48
Average yield per ton of 8,820 tons, 2d class	172 14
Average yield per ton of 57,638 tons, 3d class	58 38
Average yield per ton of ores reduced at Gould & Curry mill	141 75
Average yield of ores reduced at custom mills	57 50
Average cost of reducing at Gould & Curry mill (nearly equal proportion of 2d and 3d class ore)	40 00
Average cost of reducing at custom mills (principally 3d class ores)	26 46
Gross product of bullion	4,883,496 80

Deduct from this for extraordinary expenses

Disbursements during the year, say for construction of mill	560,893 58
Litigation and adverse claims	135,747 13
Total extraordiniary expenses	696,640 71
Dividends declared from December 3, 1863, to December 3, 1864	1,440,000 00

Being about 34¾ per cent. of the gross receipts of the mine, after deducting the above mentioned extraordinary items of expenditure.

The financial condition of the company at this date is as follows:

Cash assets and bills receivable	$100,348 56
Our liabilities are	95,471 82
Estimated value of property owned by the Company, exclusive of the mine, at this date —2,500 tons of ores on hand at dump pile at $40	100,000 00
5,000 tons tailings at mill at $30	150,000,00
Inventory of property of all kinds other than ores	856,640 80
Total	$1,106,640 80

In regard to the future prospects or the mine after carefully perusing the report of the Superintendent, which plainly shows our resources, I am convinced that from $50 to $75 per foot dividend, monthly can easily be paid for the ensuing year. Should extensive new bodies of ore be found—and certainly the indications are very good for such discoveries—then the dividend will necessarily be increased. With the present facilities which the Company have in their mill for reducing large quantities of ores at small cost, and the system of economy inaugurated in the various departments of the Company, I think it is reasonable to conclude that the stockholders hereafter will receive in dividends at least 45 per cent. of the gross product of the mine.

SECRETARY'S REPORT.

The President's report contains a summary of the

Secretary's report. The following additional figures, however, are interesting:

Labor and salaries at mine	$463,461 67
Lumber and timber at mine	160,488 76
Materials, iron, hardware, candles, etc.	80,601 04
Freight from California	8,800 97
Explorations conducted from other mines	21,739 72
General and incidental expenses of management	56,754 79
Total expenses of mine,	$770,107 13
Reducing ores:	
Labor and employees	$120,568 71
Materials, quicksilver, wood, salt, sulph, copper, hauling, etc	383,083 98
Total of reduction expenses	$503,652 69
Taxes	20,109 83
Freight on bullion from Virginia	48,042 82

SUPERINTENDENT'S REPORT.

The Superintendent report the total amount of ground excavated during the year as follows:

Excavations on ore	1,026,144	cubic feet.
3,648 feet of tunnels, etc	137,680	" "
546 feet of shafts	70,505	" "
Total	1,234 229	" "

Or a cubical mass of 108 feet.

He estimates the ore within sight at 17,000 tons He says: "To sum up the change in the mill, I may say that it has been altered and built over almost from the foundation, converting it from a dry-crushing mill, of 25 tons capacity, at a cost of $50 to $60 per ton, to a wet-crushing mill, of 100 tons capacity, at a cost of $12 per ton. During the month of November last, the first month we have had entirely free from construction expenses, and with the mill in complete running order, we were able to reduce 2,800 tons of ore, or nearly 100 tons per day, and this at a cost of under $12 per ton. This compares very well with the best work done at any mill in the country, either by steam or water, especially when we consider the care taken in the working of the ores, as shown by the results obtained, of about 70 per cent. of assay value."

The present cost of mining and reducing are stated thus:

Mining	$ 7	per ton.
Hauling	1	" "
Reduction	12	" "
Assaying, taxes, litigation, etc.	5	" "
Total	$25	" "

NEW BOARD.

The reports were accepted, and the meeting proceeded to elect a new Board of Trustees. The number of shares of stock represented was 2,673. The new Board, elected almost unanimously, are: Asa T. Lawton, Alpheus Bull, Thomas Bell, H. B. Williams, Lewis Cunningham, R. B. Woodward and B. F. Sherwood. At a meeting of the new Board, Mr. Lawton was re-elected President, but declined, on account of an intention to pay a visit to the East. Thereupon Mr. Alpheus Bull was unanimously elected to fill the vacancy made by the declination ot Mr. Lawton.

CANADIAN MINERS' ASSOCIATION.

An influential association has been formed at Sherbrooke, Canada East, with a view to disseminate correct information as to the mineral resources of the country, and to encourage the development of the copper veins known to exist in the neighborhood. It is contemplated to hold public exhibitions of mineral ores and metalliferous deposits, under the auspices of the association, and it is hoped that from such an arrangement the best results will follow. The president is Mr. R. W. Heneker; and the Vice Presidents are the Hon. A. T. Galt; four members of the legislative council, the Hons. P. M. More, L. S. Huntington, John S. Sanborn, M. Laframboise; and Lord Aylmer; seven members of the Provincial Parliament, Messrs. J. H. Pope, W. H. Webb, G. Ironig, J. B. Dorion, O. Dunkin, W. Shanly, and J. O'Halloran; Col. B. Pomeroy; Prof. Milen; and Messrs. L. Sleeper, A. Adams, T. Scott, C. Pearce, W. H. Hunter, O. Morrill, and Herbert Williams. It is confidently believed that the new association will command public confidence, and be enabled to afford an acceptable guarantee, to those who associate with, or purchase from, Canadian mine owners, that the mines in question not only have an actual existence, but are not misrepresented. A system, based upon combination, must eventually take place in Canada, as in other, mining regions, and to bring such a system into practical and profitable display, some means of arresting excessive valuation must be resorted to, or mines that are actually good become damaged by irresponsible misrepresentation. It is very truly stated that much of the prevailing uncertainty of mining originates from ignorance, which thorough professional investigation would have a tendency to reduce. The mineral resources of the Eastern townships are rich and extensive, and will eventually form the chief business interests of the community. Week after week we hear of new discoveries, and though all cannot expect to be equally fortunate, we cannot doubt that the year 1865 will find many extensive mining companies in active and profitable operation. Mr. G. R. Robertson has been appointed the secretary, and the management has been placed in the hands of a committee composed of Mr. J. G. Robertson, the Mayor of Sherbrooke; Major King; Messrs. E. Clarke, W. Ritchie, R. Freeman, J. Griffith, G. R. Bobertson, T. Smyth, Thomas Mackie, Patrick Anderson and Capt. Bruyeres. If the enterprise be carried on with the energy and integrity which the names of those connected with it would lead one to expect, it cannot fail to be productive of a very large amount of benefit.—*Sherbrook Freeman.*

TIN STONE.

Cassiterite, or tin stone, binoxide of tin, is the only ore worked for the metal; and is not a widely dispersed mineral. Out of England, a few hundred tons per annum is the total of the European production, though the mines of Galicia, Spain, are supposed to be in continuations of the tin and copper-bearing rock formations of Cornwall. Cornwall, with certain localities of Southern Asia, the East Indies and South America, supply nearly the entire tin now used on the globe. There is much uniformity in the geological and lithological relations of the oxide of tin, though its modes of occurrence and forms are various. It is found crystallized in quartz veins, also in concretionary forms running in thread-like net work through the rock, and in almost imperceptible particles disseminated through the mass, and in rolled pieces, or nuggets in the alluvium under the same conditions as drift gold is found. It is a concomitant in the rock of differing ores, especially the sulphuretted ones, yet it is rarely an incidental product of the veins where most of its associated ores abound. Porphyry and granite, with connected schistose rocks, are the formations in which tin ore occurs in workable quantities, and such rocks are also the source of the alluvial deposits Its occurrence apt to be especially characterized by the presence of apatite, woltram, or albite.

The "elvan" (porphyry) of Cornwall, is the great tin bearing rock of the district. Occasionally, the granite and the slate are productive.

In the United States, apart from what the Rocky Mountain mineral regions may contain, tin has seemed to be almost excluded from the soil. Generally, wherever the oxide is found, it occurs in considerable quantities; but excluding California, and the reported Missouri tin deposits, the discoveries in the United States have been limited to the finding of a few crystals and concretions; some of the mineral having been detected in the magnetic iron ores of the highlands of New York and New Jersey.

Some years since a small vein containing copper pyrites and oxide of tin, was found by the New Hampshire State geologist, in Jackson township, Carroll county. This attracted some attention, but little of a practical character; subsequently, 3 other small veins were discovered crossing the first. Tin is found outside of the veins in the adjacent rock. It is inferred that the adjacent rock will yield 35 pounds per ton, and the vein rock, 100 pounds per ton. The seams are thus generally described:

"Veins of arsenical pyrites, very compact and rich in arsenic; arseniate of iron, both the green and yellow varieties; copper pyrites, in small veins and disseminated masses: black sulphuret of copper, (rare), carbonate of copper, investing the surface of the copper pyrites, and the including rock; native copper; tungstate of manganese and iron (rare;) phosphate of iron; fluor spar, both the white and purple varieties, in the north and south vein; sulphuret of molybdena, (rare;) and black tourmaline, principally in the granite veins; quartz crystals in small veins, and druses in the cavities. All the veins of tin ore have evidently been deposited on the sides of the crevices in the granite and mica slate, and have filled the space from the sides to the center, where there is a line of crystalization or a thin layer of quartz, separating the vein into two equal parts."

The rocks of the district have considerable analogy with those of Cornwall, but do not accord in some important respects, and perhaps more nearly resemble in the cupriferous features. Vein No. 1 is cut off by a porphyritic trap dyke, and the vein is enriched at the point of contact, not with the tin, but with the copper, which is found also in the trap rock.

The American Tin Mining Co., chartered by the legislature of New Hampshire, July 15, 1864, have undertaken, or rather invite capitalists, to embark in the undertaken of developing the Jackson "tin mountain." The trial pits or costines sunk upon the veins, show the vein crystal, and the compact and granular varieties. It is certainly desirable that the enterprise should prove successful.—*American Exchange and Review.*

A FLOURISHING MINE.

Professor Silliman has recently examined and prepared a complete report of the Empire Mill and Mine, at Gold Hill, Nevada. From this report it appears that the mine has been opened to a depth of 445 feet. The Company have crushed, since their organization, about 26,000 tons of ore, from which they have received bullion to the value of $1,043,720—an average of $40.-76 per ton. Of this amount, $288,000 has been paid out in dividends; $24,000 is now in reserve for the December dividend, leaving a balance of $731,720 to represent the cost of mining and milling, opening the mine, and all other expenses to date. There has never been an assessment levied upon the stock of this mine, nor has anything ever been paid in on its capital stock, which is $1,000,000. All its prospecting, opening, milling and mining, has been paid out of the mine itself, and two fine mills have been built, at an expense, the first of $60,000, and the second of $75,000. The proportion of the gross proceeds which can be laid aside for dividends hereafter, will be largely increased over the past. The Professor, after a careful examination of the interior of the mine, thinks that the total body of ore already developed, above the present lowest level, will yield $3,988,000, or nearly four times as much bullion as has already been taken out. There are but few mining companies that can make a better exhibit of actual working or prospective yield than the Empire Mill & Mining Company. The affairs of this Company have always been managed with skill and prudence—a fact which we have frequently heretofore noticed.

THE PROFITS OF GERMAN MINES.

It is generally anticipated that in the course of the approaching session of the Prussian Chambers attention will be directed to the forthcoming sale of the forges, mines, and other industrial works belonging to the State. Between 1853 and 1863, these establishments effected a total receipt of 28,742,175 thalers, against a total expenditure of 27,580,647 thalers, so that the nett profit was only 1.161,528 thalers. The extraordinary receipts amounted to 482,950 thalers, and the extraordinary expenses to 238,441 thalers, showing a profit of 244,509 thalers. This amount, added to the profits

previously indicated, made a total of 1,399,969 thalers This sum had, however, to support expenses of administration amounting to 505,149 thalers; so that the nett actual profits realised in the ten years were only 894,820 thalers. It should, however, be stated that the working capital was increased out of revenue from 5,567,679 thalers in 1853, to 6,362,163 thalers in 1863. When we examined the capital immobilised in all the establishments, we find that the return realised in the investment made by the State has been only at the rate of 1·90 per cent. per annum, a very meagre result.

IRON RUST.

Rust has played, and seems destined to play, a large part in human affairs. There is every reason to believe that the iron age preceded that of bronze, but the strong affinity of iron for oxygen has probably swept away the iron vestiges that would have thus substantiated the deductions of the metallurgist. Up to the present, rust has played more havoc with our iron-plated ships than has been achieved by shot fired in anger; and when the destruction through rust of the Menai and tubular bridges is said to be a mere question of time, it is well to enquire into the nature of rust.

The formation of rust on iron may be called a slow combustion or a slow union of oxygen with the iron. When iron becomes covered with a reddish-brown crust, which gradually spreads and deepens until the iron is eaten through and through as if by a cancer, we say that it oxidises, corrodes, or rusts. The word oxidation best expresses this action, as it is simply a combining of oxygen with the iron, in the proportion of two grains of the former to seven of the iron itself.

When rust has once fixed its tooth in the iron, the process goes on rapidly; each spot of rust forms a voltaic pile in which the iron is positive, and, the moisture of the air being decomposed, the hydrogen is set free and the oxygen combines with the iron. But iron does not rust in pure oxygen. The presence of substances is necessary to induce the combination, and carbonic acid and water, both of which are contained in the atmosphere, are the two most common agencies Very small quantities of acid, and many salts, especially common salt, sal ammoniac, and acid salts, have also great influence. The mere spilling of an ounce or two of hydrocloric acid in a store of hardware would be sufficient to spoil all the goods, and contact with Kyanised timber rapidly oxidises iron, especially in damp situations. The contents of the water in which iron may be immersed are no less important in their influence. According to Mr. Mallet, in foul standing sea water the rusting of iron is at a maximum. In clear running river water, on the contrary iron corrodes very little more than when exposed in the atmosphere to all changes of weather and temperature. The water perfectly free from air, oxidation does not take place. So much for the nature and causes of rust.

The means to be adopted to counteract the formation of rust may be classed into:—1. A choice as to the nature of the iron; 2, the use of galvanism; 3, the employment of protective coatings. To insure comparative fredom from rust, cast-iron should be uniform, bright, and hard. The aggregate condition of the whole mass, the galvanic quality of the surface exposed to corrosion, and regularity of colling when cast, are also important conditions. Wrought-iron and steel consist, as Mr. Mallet has pointed out, of two or more different chemical compounds, coherent and interlaced, of which one is often electro-negative to the other. The electro-positive body suffers first from corrosion, and the electro-negative portions of the iron do not oxidise until nearly the whole of the other portions are removed. Generally speaking, wrought-iron suffers nearly three times as much as common cast iron from corrosion; spiegeleisen, on the other hand, scarcely at all. Speaking of the nature of iron, we may mention here that Mr. M. Poole took out a patent in 1845 for making iron hard, durable, and free from oxidation, by employing ferrocyanide of sodium, barium, calcium, or other alkalies or akaline bases, in the manufacture. The use of galvanism is based upon the phenomenon that it is the electro-positive substance which is first oxidised. Zinc, being very electro-positive to iron, is the metal most employed for diverting the oxygen from the iron to itself. Tin is much less electro-positive, and iron is thinned rather to give it a durable coating than for any galvanic purpose. Copper is electro-negative to iron, and if used galvanically would actually accelerate rusting. If brass be employed, the proportion of copper in it must not, therefore, be more than 31 per cent. The first patent for preserving iron from rust by galvanism was taken out in 1830 by G. G. Bompass; and in the same year John Revere patented the fixing of zinc protectors to the cast-iron cross-stud of chain cables, and to other iron details. The large iron pans at salt-works, in which salt ley is evaporated, are likewise preserved from rust by zinc being applied to the corners. Unfortunately, the preservative action ceases as soon as the zinc becomes covered with zinc-oxide. Iron coated with zinc, and lying in sea water, or even in some fresh waters, gets also soon covered with carbonate of lime, which stops the protection, and enables marine animals and plants to attach themselves. Mr. Mallett thus patented, in 1841, a counteracting process, by which the iron, after having been thoroughly cleansed, is immersed in a series of preparing bath, and finally in an alloy consisting of zinc, mercury, and a very small proportion of potassium or sodium.

The third and most general means for preserving iron from rust, is coating the surface with some kind of protective layer. The commonest coatings in use are paints, pitch, tar, oil, and grease, and in some of these cases the iron is either hot at the time of application, or is else heated afterwards. But paint containing red lead must be carefully eschewed, as it accelerates rusting, by imparting to the iron its own oxygen, and thus changing, according to Jouvin, in course of time actually into metallic lead. Asphalte alone, or shellac dissolved in methylated or wood spirit, insoluble soaps, and solutions of India rubber, are occasionally employed. Vogel suggests a coating of white wax dissolved in benzine, the latter evaporating and leaving a skin of wax. M. Thiebault, of St. Etienne, recommends a covering of black oxide, which is produced by rust formed artificially on the surface,—the iron being then plunged into nearly boiling water. This process having been repeated several times, the exterior is covered with a weak solution of sulphate of potash, and rubbed over with olive oil. By this process the rust loses its affinity for oxygen, and does not form a voltaic pile with the iron. Some of the patents taken out in England for giving the iron a protective coating are worth notice. In 1849, Mr. Paris patented a process, according to which a solution of gum was spread over the cleansed surface of the iron, powdered glass being strewn upon it, and then fused. In 1856, Mr. Reid, a mineralogist, took out a patent for what he called a sure method. As far as simplicity and cheapness are concerned, it would seem to leave nothing to be desired. The iron is first placed in a furnace and covered with soot. The temperature is then raised to red or white heat, and the iron having been cooled down and cleaned, and a coat impervious to rust is said to be formed. In the same year Mr. Atkinson patented the depositing of brass or copper on iron, a process said to be successfully carried out at Portsmouth by Mr. Wielan on armour-plates. In 1858, Messrs. Bouchard and Clavel, Paris bankers, patented a paint chiefly containing an ochre found on an estate in the department de l'Yonne. This peculiar kind of ochre, called Burgundy red, is said to possess some excellent qualities, and to be also an exceedingly good preservative against rust.

There are still some rust-preventing substances which cannot well be included amongst the coatings—alkalies, for instance. Iron may be sefely kept in lime-water, or water containing either carbonate of soda or patash. Payen gives as a reason that the contact with them renders the iron electro-negative. For protecting iron kitchen utensils when out of use, a paste of soda, roasted starch and water, would be much better than grease, which turns rancid, and then quickly leads to the formation of rust. The presence of slaked lime, and especially chloride of lime, in the nighbourhood of polished steel is also very effective in preserving it from corrosion, as both these earths have a strong affinity for carbonic acid and water. Herr Krupp's cases of steel in the last great Exhibition were provided with pieces of chloride of lime placed in a saucer, and it was remarkable in how bright a state the fractured surfaces were kept by this means. Charcoal powder is much more useful than sawdust for packing up iron-ware, as wood in a minute state of subdivision has its hygroscopic properties, or affinity for moisture, greatly increased.—*Mechanics' Magazine.*

RUBY AND SAPPHIRE.

Nature crowns her works with richest beauty, but does not garnish all her labors. Making not her greatness common, she deals out with no lavish hand the excelling glory of her skill. The earth with its diversity is less than the water with its monotony; the grass spreads green over wide and widening fields, where the flower but dots with other tints the emerald sweep, as star-light in clouds. Water-covered debris of mighty forests change to beds of coal; and these earth-enveloped fields of carbon reach over lengthening miles, while with rare caprice, have been snatched aside some few particles from the great carbon mass to crystallize in purity and sparkle as the diamond.

Empires of the past are dust. Our bodies are but clay. Very common is your earth.

Imperious Caesar, dead and turned to clay,
Might stop a hole to keep the wind away.

The common clay on which we tread is yet kin to royal beauty, and in her freaks has Nature chosen to cast the purple of the throne upon the dust at the footstool. The blood of the argillaceous race, plebeian red or grandee blue, hidden throughout the globe, flames in the crimson ruby or serenely glows in the azure sapphire.

Alumina, which is pure clay, is the oxide of the metal alumina. But, as what we style clay, is not a simple mineral, it has alumina only as one element of its composition; still, it is the chief one. Man now separates alumina from clay. Nature has separated alumina from all other substances, and formed the ruby and the sapphire, while, by combining it with others, she makes the beryl, emerald, topaz, &c.

Ansted says:

"Next to the diamond in value, in beauty and in hardness, and in some cases rivalling or even excelling it in the two former properties, are the gems obtained from crystallized clay. Strange that coal and clay, the two least likely substances to possess any intimate relations with beauty and hardness, should, in their crystalline forms, excell all others in both these respects! Not more strange, however, than true.

Under the name of ruby and sapphire the red and blue varieties of crystallized clay are well known to the world. They are almost all obtained from Pegu, Ava, and the island of Ceylon,—a singularly limited region, for a mineral which one might expect would be widely distributed. Like the diamond, they are obtained by washing gravel, and all the varieties occur in the same district. These varieties include the Oriental sapphire, the Oriental ruby, the opalescent ruby, the star ruby, the green, yellow and white sapphires, and the Oriental amethyst. Most of them are extremely rare, and all the finest specimens are believed to be still retained in the East. As, however, these stones of Eastern princes are rarely cut, and no doubt many of them would be found affected with flaws, their real money value, if in the market, would be very inferior to their estimated value.

There is a useful mineral of extreme hardness—the corundum of commerce, from which the hardest and finest emery is obtained—which is an imperfect and opaque crystallization, of the same origin as the ruby and sapphire. The gems themselves are clear, though rarely colorless. Small specimens are much less valuable in proportion than larger sizes, for they are far-

more abundant; but a perfect ruby of five carats is worth twice as much as a diamond of the same weight, and one of ten carats three times as much.

The ruby was called by the Greeks *Anthrax*, or live coal, from its brilliant blood-red color and exquisite beauty, which, like the diamond, is rather improved than diminished when seen by artificial light. From the intense blaze of blood-red the colors of the ruby pale down by admixtures of blue through rose-red to lilac. Exposed to the rays of the sun, or heated, the ruby like the diamond, becomes phosphoric. In the Middle Ages it was believed to be an antidote to poison, or dispel bad dreams, and to warn its owner of misfortune by a darkening of its color until the danger was past.

There is a very celebrated ruby set under the back cross in the crown of England. It remains in its natural shape—that of a heart—and has received no polish. Its color is that of a Morella cherry, and it is semi-transparent. It was brought from Spain by Edward the Black Prince, and was afterwards worn by Henry the Fifth at Agincourt. Other rubies of very large size are recorded, but few of them are polished, and fewer still are cut.

The sapphire is an exquisite blue variety of ruby, soft, rich, velvety, and delicate in the extreme by day, but losing much beauty by artificial light, even sometimes changing its tint. Occasionally it sparkles with great vividness in the sun, as a star with distinct rays, but such stones are only semi-transparent. There is a violet variety, called by jewellers the Oriental amethyst. It is a gem of great rarity and beauty, and takes a very brilliant polish, owing to its extreme hardness.

Like the ruby, the sapphire was held by the ancients and during the Middle Ages in high honor. It was considered emblematic of purity. To look at one preserved the eyesight; placed on the brow, it stopped haemorrhage. The powder of sapphire was a sovereigh remedy against plague and poison, and if merely placed over the mouth of a phial containing a venomous insect, the insect died on the instant. It is a Jewish superstition that the first tables of the law given by God to Moses were of this stone. It is certain, at any rate, that both rubies and sapphires have long been employed in the East to engrave upon, notwithstanding their great hardness."

The white or water sapphire, is used in the manufacture of lenses for microscopes; the mineral also serves for plates through which to draw the finest wires, and also for jewelling the pivot holes of watches.

Of the different varieties of the species, corundum—which includes rubies and sapphires—inferior qualities are found in the United States.

Crystals of red, bluish and pink colors are afforded by the granular limestones along the border line of New York and New Jersey. Crystals of blue sapphire have been discovered at Newton, N. J., and red sapphires in Cherokee county, Ga. We hear of ruby crystals in the gold and silver land north of the river Gila. *American Exchange and Review.*

THE MANHATTAN GAS COMPANY AND LIGHTING THE CITY LAMPS.

Office of the Manhattan Gas Light Co.,
New York, Feb. 6, 1865.

It having been stated in several of the papers that this Company had notified the Street Commissioner that it would discontinue lighting the street lamps after this date, I would respectfully inform the parties who have furnished this statement that no such notice has been given or intended.

The Street Commissioner was notified that the company, being without a contract, was willing to enter into one on just and proper terms; and that it would in the absence of any contract, charge a specified price per annum for each lamp, or would discontinue to light the lamps on being notified by the Corporation that it was not willing to pay that price and desired to have the service discontinued.

Please make this correction, and oblige your obedient servant, CHARLES ROOME,

President of the Manhattan Gas Light Co

GAS.

WOOD GAS.

We shall pursue the subject of generating Gas from Wood, both as a principal and auxiliary, submitting to our readers such communications as may be made to us, as also, such facts from experiments as may come to our knowledge from reliable sources. We are glad to submit in this number a series of experiments made by scientific and practical men, which will be interesting to Gas manufacturers where wood can be obtained advantageously.

These experiments were made in retorts intended for Wood Gas, having several chambers for the vapors to pass through, that a complete generation of the Gas may be perfected by prolonging its exposure to a properly heated surface. This plan produces nearly double the quantity of Gas which the same materials would produce in a common retort.

In using tar, or still bottoms, (residuum of Petroleum or coal oil,) the liquid should be put into pans in the back part of the retort.

It should not be forgotten that as a general thing, charcoal from Wood Gas is a residuum of greater comparative value to the cost of Wood, than coke is to coal.

Experiments at New Rochelle, New York, Aug. 18th, 1864, with wood and still bottoms.

Gasometer 35 feet diameter.

1st charge 1-18th of a cord of pine Wood and 6 gallons of still bottoms, 2½ hours raised the gasometer.....21⅝ inches
2d charge, same quantities and time,..... 21½ do
3d charge,.....do.....do..... 21½ do
4th charge,.....do.....do..... 21½ do

The four charges raised the gasometer 85 inches, which gives 6,800 feet of Gas, consuming 2-9ths of a cord of pine wood and 24 gallons of still bottoms.

One cord of pine wood and 108 gallons of still bottoms, produce 30,600 feet of Gas. One retort yields 17,000 feet in 24 hours.

Cost of wood,... ....$10,00
Still bottoms,..... 16,20

$26,20

Or, 85 cents per thousand cubic feet for materials.

Experiments made in the city of Washington, D. C.

1 cord green oak wood weighs,.....3,651 lbs.
1 cord dry do. do., ...2,984 "
1 cord green wood gives....14,660 ft.
1 cord dry do. do. ....12,750 ft.

One bench of 3 retorts, 8 ft. by 20 inches, will produce from green oak in 24 hours, hydrogen, 22,950 ft.

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1 ton of Cumberland coal and 416 lbs. of "Ritchi coal,"* gives.....9,483 feet standard light.

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150 lbs. green oak wood and 3 gallons still bottoms, gives..... 717 feet standard light.

---

150 lbs. green oak wood and 3 gallons gas tar, gives..... 697 feet standard light.

---

1 cord green oak wood and 72½ gallons still bottoms, gives..... 17,221 feet standard light.

---

1 cord green oak wood and 72½ gallons gas tar, gives..... 16,732 feet standard light.

---

1 cord green oak wood and 500 lbs. "Ritchi coal," gives .... 18,930 feet standard light.

---

1 cord green oak wood and 108 gallons still bottoms, give..... 30,600 feet standard light.

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1 cord green oak wood and 2,240 lbs. Fairmount coal, gives.... ... . 29,584 feet standard light.

The above *tabula* is from a perfectly reliable source, and but for disappointment in controlling Gas Works which were promised, the results of further experiments would now be submitted. But we consider the subject fairly entered upon, and invite contributions either scientific or practical.

We have observed among the English patents, the following:

Marin Joseph Alphonse Miner, and Fras. Canal: 10th Sept., 1857.—Our invention relates to improvements in the manufacture of Gas—consists in the use of tars and other residues arising from the manufacture of Gas, and other tars, resinous or fatty matters mixed with thin shavings or chips, or pieces of wood, and saw-dust of all kinds of wood. This mixture is distilled in an ordinary Gas apparatus, and the Gas resulting, purified by ordinary means. By this process a very pure and cheap Gas is obtained of good lighting power.

The proportion of the various substances employed are as follows: 500 parts of the residue of Gas, or of fatty matter—1,000 parts of saw-dust of any kind of wood—500 parts of shavings, chips or pieces of wood of any kind. In our various experiments we have found these proportions very suitable, but we can vary these proportions, &c.

*The "Ritchi coal" is in fact a crystalized petroleum. It is a most remarkable substance, wonderfully rich in carbon, discovered in Ritchi county, Virginia. We will soon give a particular account of this article in analysis.

THIN SHEET IRON.

The American specimen which we sometime since noticed, has naturally led to attempts in this country, says the London Builder, to ascertan the thinness to which British iron can be rolled; and Messrs Murrall & Stothert, the metal brokers, of Cardiff, are said to have produced some sheets which, it is claimed, surpass the American specimens, both in quality and thinness. The plates are less than the 1,000th part of an inch in thickness, and a plate 8 in. by 5 1-2 in., weighs 2 dwts. 14 1-2 grs. only, without the slightest flaw, either at the edges or elsewhere. They are manufactured by Messrs. T. W. Booker & Co., of the Melingriffith Works, near Cardiff, from their celebrated R. G. "tagger" or "button iron," and are one-tenth thinner and lighter than the American plates to which such great consideration has been given. "The thinnest sheet of iron yet rolled in the world" (1,000th part of an inch) has elicited numerous competitors in this country. We mentioned that iron had been rolled at Cardiff considerably thinner, and since then some iron still thinner has been rolled by Messrs. James, of Bilston. A sheet has been rolled from common iron in the ordinary sheet mills by Messrs. Robert Williams & Co., of Swan Village, West Bromwich, which is only 1,015th part of an inch thick, is very tough, and has a good even surface. Another specimen consists of two sheets, measuring 8 in. by 5¼ in., weighing respectively 49 and 49½ grains, and being the 1,400th part of an inch in thickness!—These marvellous examples of iron rolling were produced by Messrs. Nevil, Everitt & Co., of the Marshfield Iron Works, Llanelly.

There was an increase of 156 new Petroleum Companies organised during the month of December, viz: For New York 29, Philadelphia 77, Pittsburgh 39, Boston 3, Baltimore 3, and Cleveland 5. The cry is still they come. Besides these cities, Chicago, Cincinnati and Erie, and other localities, are organizing companies.

THE MINING & PETROLEUM STANDARD AND AMERICAN GAS-LIGHT JOURNAL, is published at Tribune Buildings, No. 1 Spruce st. on the 2d and 16th of every month, and is a recognized official organ of—

LIGHT, HEAT, MINING INTERESTS.

PETROLEUM, WATER-SUPPLY, AND

SCIENTIFIC SUBJECTS GENERALLY.

JAMES W. BRYANT, EDITOR AND PROPRIETOR.

W. S. SHERMAN, PUBLISHER.

PROF. C. ELTON BUCK, CONSULTING CHEMIST.

SUBSCRIPTION—Three dollars per annum in advance.

ADVERTISEMENTS.—One dollar per inch in column for each insertion. Large space or long time by special contract.—Payable in advance.

☞ All communications to be addressed to "The Editor," No 1 Spruce Street, New York.

AGENTS.

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PHILADELPHIA—JOY, COE & Co., No. 441 Chestnut st. cor. 5th.

Germany .....B. WESTERMAN & Co., of New York.

Great Britain....TRUBNER & Co., 60 Paternoster Row, London.

France. .....} LE JOURNAL DE L'ECLAIRAGE AU GAZ, 25 Boulevard Poissonnière.

The Mining and Petroleum Standad AND AMERICAN GAS-LIGHT JOURNAL,

PUBLISHED ON 2D AND 16TH OF EVERY MONTH.

JAMES W. BRYANT, ... EDITOR.

THURSAY, FEB. 16, 1865.

BACK NUMBERS WANTED.—We want to complete our files of the Journal, the following numbers, for which we are willing to pay full price.

Vol. II—No.'s 13, 22, 24, 25, 29 and 34.

Vol. III—No.'s 40, 42, 44, 47, 48, 52 and 56.

Vol. IV—No.'s 63, 64, 67, 68, 69, 70, 72, 74, 80, 82, 83.

Vol. V.—No.'s 91, 93, 95 and 96.

Those of our subscribers who do not bind the Journal, would do us an especial favor by forwarding to us any of the above numbers. We are being constantly called upon to furnish back issues of our paper by those who value it for future reference, and we have supplied them until all of the above numbers are exhausted.

TO OUR SUBSCRIBERS.—There are a few of our subscribers who are in arrears for the current year, and to whom we have sent bills without any response, We request all who are indebted to us to remit the amount due, either in a Bank check to our order (payable anywhere), or in a post office order payable here, not having received several remittances made to us in money. And if any parties remit and do not receive acknowledgement of its receipt in due time we wish them to advise us.

We invite attention to the Wood Gas experiment, which we publish this week in our Gas department.—The results as there set forth, were produced under the eye of responsible and scientific men, and are worthy of the utmost confidence.

A great fire recently occurred at the establishment of Messrs. Salavy & Co., Marseilles, France, and crude Petroleum was destroyed to the value of £8000.

In New York and Philadelphia, public exchanges for the sale of oil shares have been projected, so that parties may be enabled to make their own sales, without the intervention of brokers.

GAS COMPANIES AND GAS CONSUMERS.

We sometime since addressed letters to the four Gas Companies of this city, requesting replies, for the purpose of writing a general article in reference to the questions asked below.

The Manhattan and Metropolitan Companies responded, but the New York and Harlem has not yet honored us. Hence we are unable to give the character to our report in statistical matter, &c., as we intended to. In consequence of the issue between some of the City Authorities and some of the people with the Manhattan Gas Company, in reference to lighting street lamps, we will again endeavor to show gas consumers and gas enjoyers, that the objections made against Gas Companies, generally are unreasonable.

We asked the following questions:

1. The quantity of coal used in your Works in 1864?
2. The quantity of gas manufactured?
3. The number of persons employed on an average?
4. The probable per centage of loss by leakage, &c.?
5. The length of street mains and service pipes in your district?

The replies of the Manhattan Co., are as follows:

1. The quantity of coal, 96,680 tons.
2. The quantity of gas manufactured, 914,708,000 cubic feet.
3. The average number of persons employed, 600.
4. The probable per centage lost by leakage, 9·5 per cent.
5. The length of mains laid, 162 5-10 miles.

The replies of the Metropolitan, are:

1. The quantity of coal carbonized, 19,532 tons.
2. The quantity of gas manufactured, 200,000,000 cubic feet.
3. The average number of persons employed, 170.
4. Loss by leakage, &c., 12 per cent.
5. Length of street mains, 83 miles.

How few gas consumers have any idea of the immense amount of capital, and intelligence of the highest order, required to initiate and carry on a colossal institutionl ike the Manhattan Gas Works. For years, night after night, almost without cessation, have the gas consumers been regularly supplied with light from the Manhattan Company at a cost not exceeding one and a half cents per hour, and equal in illuminating power, when properly consumed, to the light of fifteen sperm candles. Complaints are frequent of the outrageous monopolies which the Gas Companies enjoy, and parties who, previous to the introduction of Gas, would limit their parlor to not more than two or three sperm or adamantine candles, now recklessly put in full blaze, three or four five foot Gas burners, equal to forty or sixty candles. The Manhattan Company seems to be singled out for all the shafts of malice that is shot by ignorant and fault-finding consumers, and is forced to bear the brunt of battle, and, as the croakers say, is "a great monopyly." Even the Press, very few of whom understand the FIRST PRINCIPLE of Gas manufacturing or Gas Works, enter the arena and "pitch into" the Manhattan, because, forsooth, there is none of their stock in market for sale at par—they seem to conceive, therefore, that the dividends are immense—fabulous. Now we are sure that if any one of the Editors who have come down so hard upon the Manhattan Gas Company, would take the trouble to go to the office, that the President, Col. Roome, would most willingly show the accounts of the Company to them, and they would then learn that the losses in supplying Gas to the City and their district for the last year, amounts to a great many thousands of dollars.

Very great complaint has been made because the Manhattan Company was released from a contract entered into with the City government to supply the street lamps, which had still about two years to run. The principle of all contracts is that they shall be founded IN EQUITY. If by any eventful changes the contractor is rendered unable to carry out his contract without ruining himself, has there not ever been a disposition to grant relief, in both public and private contracts? How many contractors to furnish the Government with supplies, would, with their securities, have been utterly ruined, besides being unable to carry out their contracts, had not the Government in its justice, equity and discretion, aided the contractors. The Manhattan Company have, lately in many instances, released parties who had contracted to supply them with coal, &c., at a price too low, and advanced the price to the same parties. Is the Manhattan Gas Company, or any other Company, to be forced to its ruin any more than individuals? It is said corporations have no souls, hence no sympathy for the bodies who constitute them. It is all wrong for the public to object to the payment of a fair reasonable price for their street lamps—the advance of the price by the Manhattan Company cannot make a difference in the tax to the heaviest tax-payer of the city, of over a few dollars, and the average for each citizen but a few cents, for this great necessity to all, as well as for the safety of those who are compelled to be out at night.

The public submit to an advance upon everything else, regretting the circumstances which cause the advance, but become outrageous because a Gas Company presumes to advance their price for Gas, although coal is nearly three times the price it was in "good old times," as well as all other articles they use—especially iron—and also the salaries of their employees are largely advanced.

We did not intend to enter so fully into the defence of Gas Companies in general, and the Manhattan Gas Company in particular, but we know they deserve relief and full support from the people and the public authorities. Only a few days since we were shown an invoice of 436 tons of coal shipped last year from England for the Waterbury Gas Co.; when delivered in Waterbury, with exchange, freight, transportation, &c., the cost was $17,44 per ton.

Let Gas consumers properly economise the use of Gas, and they will not complain of their bills for it

OIL PRODUCT OF THE TARR FARM, OIL CREEK.—A resident of the Tarr Farm, and whose statements are entirely reliable, gives us (says the Oil City Register,) the following as amount of daily production upon the Tarr Farm: Saturday, Dec. 31st, Curwin Well, 100 bbls.; Cornwall Well, 125; Sterling Well, 125; Phillips Well, No. 2, 150; Phillips Well, No. 1, 130; Sherman and Pratt Well, 80, Weasel Well, 60; Hickory Well, 40. Thus making a total of 710 barrels as the daily production from these wells. There are several other producing wells on this farm, the amounts from which will foot up a total daily production of fully 800 barrels.

The importation of Petroleum at Hamburg in 1864, amounted to 72,000 barrels. According to the last official returns the stock of Petroleum in warehouse at that port was 10,462 barrels, and 319 cases of refined, and 4,952 barrels and 418 cases of crude.

A NEW USE FOR MAGNESIUM.—The magnesium lamp (if it can only be made practically useful) promises to become a regular article of furniture in every silk dealer's show room. Whether by night or on a dark day, any question as to color is in a moment set at rest in the flame of a bit of magnesium wire.

PETROLEUM MARKET.

Feb. 1—This market has been very unsettled and irregular since our last, owing to the constant fluctuation in gold and exchange; at the close prices are nominally lower: we quote at 45 and 46 cts. for Crude, 65 and 66 cts. for Refined in bond, and 85 and 86 for do. free.

Feb. 2—The market is dull and easier; we quote Crude at 45 and 46 cts. Refined in bond at 65 and 66 cts. and Refined free at 85 and 86 cts.

Feb. 3—The market is quiet, but holders are firm in their views. We quote at 45 and 46 cts. for Crude; 65 and 66 cts. for Refined in bond, and 65 and 68 cts. for do, free.

Feb. 4—The market is quiet but prices are firmer. we quote Crude at 46 and 47 cts. Refined in bond at 66 and 67 cts. and do, Free at 86 and 87 cts.

Feb. 6—The market is firmer but not active; we quote at 49 and 50 cts. for Crude; 67 and 68 cts. for Refined in bond, and 86 and 87 cts for Refined, free.

Feb. 7—The market opened firmer but closes dull sales of 100 bbls. Crude at 50½ cts. weich is an extreme price. We quote at 49 and 50 cts. for Crude; 68 and 69 cts. for Refined in bond, and 88 and 89 cts. for do, free.

Feb. 8—The market is quiet and prices are easier; we quote at 48 and 49 cts. for Crude, 67 and 68 cts. for Refined in bond, and 87 and 88 cts. for do, free.

Feb. 9—The market is dull, and prices are again easier; we quote at 48 and 48½ cts. Refined, in bond, at 67 and 68 cts. and Refined, free, at 87 and 88 cts.

Feb. 10—The market is firmer, but not active: we quote at 48 and 49 cts for Crude; 68 cts. for Refined, in bond; and 88 cts. for Refined, free; sales of Crude, buyer all next month, at 44 and 45 cts.

Feb. 11—Crude has been in improved demand, and prices are decidedly better; sales of about 700 barrels, at 50 and 51 cts. the market for Refined is dull and depressed; we quote nominally at 65 and 67 cts. for bonded and 86 and 87 cts. for free.

Feb. 13—Crude has again advanced, owing to small stock and limited arrivals; sales of 1,000 bbls. at 54 and 55 cts. Refined are quiet at 67 and 68 cts. for bonded, and 87 and 88 cts. for free.

Feb. 14—The market for Crude rules very firm at the late advance, owing to a strong demand to fill maturing contracts, the stock is light and will continue to be so until the opening of the Alleghany River which is blockaded by the ice; sales to-day at 53 and 54 cts on the spot, and 48 and 49 cts. buyers option all next month; Refined is quiet but firm, at 67 and 68 cts. for bonded, and 87 and 88 cts. for free.

THE PETROLEUM EXPORT TRADE.

Monthly exports of Petroleum from the United States for 1864:

	Gallons.		Gallon.
Janury, . .	1,478,293	October, .	3,321,836
February, .	2,340,091	November,	2,968,368
March, . .	1,792,961	December, .	1,754,411
April, . .	982,013		
May, . . .	2,322,520	1864, total,	31,643,196
June, . .	3,250,554	1863, total,	28,162,191
July, . . .	2,959,660	1862, total,	10,887,701
August, . .	4.843,472	1861, total,	1,194,682
September, .	3,629,017		

As but comparatively little crude oil was exported —the bulk of the foreign trade being in refined oil —the value of the oil exported in 1864 was about fifteen million dollars.

IMPORTANT NOTICE.

To Advertisers.—Our paper offers a superior medium as an advertising agent, to all those who manufacture or sell machinery or appliances of any kind for Gas, Mining, Water, Sewerage, the production or purification of Oils, &c. &c., not so much on account of a wide-spread circulation, as from the fact that it goes directly to the hands of those who are constantly using and requiring machines and improvements for these branches, and who look hrough our columns for information where to procure them. The class of people who read our paper not only peruse our pages of reading matter, but read the advertisements as well, for the reason that they are directly interested in all things pertaining to their business. We therefore ask, with confidence that we can do them justice, all parties having machinery or improvements of any kind for either of the objects to which our paper is devoted, to send in their advertisements and avail themselves of these advantages. It will be observed that our terms for advertisers are very reasonable.

NEW YORK MINING EXCHANGE.

New York, Feb. 15, 1865.

	Bid.	Asked
Copper Stocks.		
Aztec	7⅛	9
Bedford	1	1⅛
Boston	4⅛	5⅛
Caledonia, A. P.	10	12
Canada	3¼	4
Carp Lake	3	5
Central	65	70
Columbian	—	24
Copper Falls	34⅛	38
Clifton	—	$1
Dacotah	—	5⅛
Derby	⅞	1⅛
Douglass	—	—
Evergreen	18⅛	20
Flint Steel River	12	13⅛
Frue	2¾	5
Grand Portage	—	—
Hancock	12⅞	14
Hamilton	—	6
Hilton	5	6
Hudson	1	2
Huron	32	33
Indiana	8¾	9¼
Isle Royale	20	20⅜
Keweenaw	—	6
Knowlton	7	10
Lafayette	1	2
Manhattan	—	—
Mendota	—	—
Merrimac	4¾	5¾
Minnesota	33	37
New York, A. P.	2	3⅛
N. J. Consolidated	4	4⅜
Norwich	—	6
Ogima	5	6¾
Ontonagon	3	4⅛
Penn	—	11⅜
Providence	1¾	2
Quincy	96⅜	98
Reliance	1⅜	2¼
Rockland	12⅜	14
Superior	8⅝	9
Sharon Consolidated	—	3

	Bid.	Asked
Gold Stocks.		
Benton	1	1¼
Consol'd Gregory	25	28¾
Corydon	—	3
Gunnel	3¾	4¼
Great Western	—	8
Hope	—	9
Isaac's Harbor	¾	⅞
Manhattan	—	9
Mariposa	44	44¾
Montana	½	1
New York	2¾	3
N. Y. & Nova Scotia	⅝	1¼
Quartz Hill	9¾	10
Quicksilver M'g Co	81	82
Rocky Mountain	—	10⅛
Smith & Parmelee	7	12
Coal Stocks.		
American	98	100
Ashburton	—	25
Central	62	65
Cumberland	61	62
Del. & Hud. Canal	206	208
*Hampshire & Balt.	104	110
Pennsylvania	213	215
Lead Stocks.		
Bucks County	⅝	⅞
Clute	1⅛	1⅜
Erie	—	20
Macomb	3¾	5
Plancentia Bay	1¾	1⅞
Sussex	⅝	⅞
Wallkill	3½	6
Iron Stocks.		
Copake	8	10
French Creek	⅞	1
Teal Lake	4½	6
Miscellaneous.		
Rutland Marble	17	20

* *Ex. div.*

FOR SALE.

The half interest in the Stock of the HAGERSTOWN GAS LIGHT COMPANY, and a four years lease of the works.

Will be sold upon terms to pay a large interest upon the investment.

Hagerstown is a thriving town in Western county, Maryland, is now the terminous of one Railroad, and will soon be of a second. For terms and for further information address. E. R. SPRAGUE,

No. 5 St. Paul street,
Baltimore.

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Trains leave from Foot of Chambers Street, via Pavonia Ferry:

7.00 A. M., Day Express, for Canandaigua, Rochester, Buffalo, Salamanca and West. Connects at Buffalo with Lake Shore and Grand Trunk Railways, and at Salamanca with Atlantic and Great Western Railway.

8·30 A. M., Milk and Way Train, Daily to Otisville.

10·00 A. M., Express Mail, for Buffalo, connecting with Lake Shore Railway.

4·00 P. M., Way Train, for Port Jervis and Newburgh.

5·00 P. M., Night Express, for Canandaigua, Rochester, Buffalo, Salamanca and West.

6·00 P. M., Lightning Express, Daily, for Canandaigua, Rochester, Buffalo, Salamanca, Dunkirk and West. Connects at Buffalo with Lake Shore and Grand Trunk Railways, and at Salamanca with Atlantic and Great Western Railway.

8·00 P. M., Emigrant Train, Daily, for Buffalo, Salamanca, Dunkirk and West.

U. S. MAIL LINE FOR CALIFORNIA,

via Panama, under convoy of a United States war steamer throughout the Atlantic voyage.

For freight or passage apply to

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JOHN M. CLAPP, Esq., General Resident Superintendent.
Counsel, Messrs. PLATT, GERARD & BUCKLEY, New York.

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J. M. CLAPP, Esq., President Venango County, Penn.
L. H. SIMPSON, Esq., of L. H. Simpson & Co., New York,

ITS LANDS FORM ITS

CAPITAL STOCK, - - - - - $5,000,000

IN SHARES OF $25 EACH, PAR VALUE—

SUBSCRIPTION PRICE, $5 PER SHARE.

Being in full payment for a $25 share. No further call or assessment to be made.

20,000 SHARES, OR $100,000, RESERVED FOR WORKING CAPITAL.

Parties subscribing in this Company will receive an equal amount of Stock in two other Companies adjoining, without further charge.

The lands of these companies are located on the Alleghany River, and on Hemlock Porcupine and McCrea Creeks, making an oil boring territory of over ten and a half miles in extent.

The wells on the adjoining property, known as the "Celebrated Heldricks" wells, and "Pithole Creek' wells, are famous for their immense supply of oil.

The wells on this property are being sunk with great vigor, and promise large supplies of oil.

To the capitalist and to the parties of limited means unsurpassed inducements are offered. Persons investing in this Company get $5 stock and the above Bonus for each $1 invested, without further call or assessment.

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TO PETROLEUM COMPANIES AND OTHERS.—A practical business man, thoroughly acquainted with the construction and operation of machinery, with much experience in the erection of factories, boring of artesian wells, and the working of Petroleum and other oils, and who is competent to make his own plans for buildings, machinery, &c., would engage as agent and practical manager or join parties about engaging in the Petroleum business. Address for two weeks. PETROLEUM, care Joy, Coe & Co., Tribune Buildings, New York.

Carrington & Co.'s
GENERAL
PURCHASING AGENCY,
In Connection with all the Expresses,
No. 40 Broadway,
NEW YORK.

Established 1854.

Purchases to order ANY article wanted from New York, (or from Europe,) for ladies' or gentlemen's use or wear,—comfort or luxury—from a cameo to a cashmere—a seal-ring to a steam-engine.

Goods purchased at current City prices, and forwarded by Express, or as directed.

Commission, Five Per Cent.

Remittances, with orders, can be made by Express if preferred, as all Express Agents will take orders, receipt for and forward funds, and see to return of Goods.

SPECIAL CIRCULAR.

The Adams Express Company, appreciating the need of a capable medium connecting with the various Express Lines, through which personal and other orders for goods from this city, can be satisfactorily supplied, do recognize CARRINGTON & CO.'S PURCHASING AGENCY as such a medium, filling orders for every description of goods wanted from New York, and commend it to the attention of the public, and of our general and local agents, recommending our agents to extend to it all reasonable aid, by facilitating the distribution of its cards and circulars, and making known the advantages it affords.

ADAMS EXPRESS CO.
By W. B. Dinsmore, Prest.
New York, June, 1864.

We cheerfully concur in the above recommendation of the Adams Express Company.
AMERICAN EXPRESS COMPANY,
By Henry Wells, Prest.
UNITED STATES EXPRESS COMPANY,
By D. N. Barney, Prest.
WELLS, FARGO & CO.,
NATIONAL EXPRESS COMPANY,
By J. A. Pullen
HARNDEN EXPRESS,
By L. W. Winchester, Supt.
KINSLEY & CO.'S EXPRESS,
By E. Littlefield, Supt.
HOPE EXPRESS COMPANY,
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BREESE & CO.'S EXPRESS,
By Stephen Breese, Supt
NEW JERSEY EXPRESS COMPANY,
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S. FULTON & CO., (Successors to Colwell & Co.) Manufacturers of Pig Iron and Cast Iron Gas and Water Pipes, also Heavy and Light Castings of every description, No. 247 North Water street and 206 North Wharves, Philadelphia.
SAMUEL FULTON, THEO. TREWENDT.

The Greatest Improvement yet in the Sewing Machine Art!

A CURIOSITY WORTH SEEING!

Please send for circular with samples of sewt.

These Improved Machines save ONE HUNDRED PER CENT. of thread and silk, and make the LOCK-STITCH alike on both sides.

They require no instruction to operate perfectly, except "the printed directions."

No change in sewing from one kind of goods to another.

And no taking apart to clean or oil.

Our New Manufactory is now complete, with all its machinery and tools entirely new, and is already rapidly turning out Machines which for BEAUTY and PERFECTION of FINISH are not surpassed by any manufacture in the world.

N. B.—Should any Machine prove unsatisfactory, it can be returned and money refunded.

Agents wanted in counties not canvassed by our own agents.

Finkle & Lyon S. M. Co.,
No. 568 BROADWAY, NEW YORK

PUTNAM'S CLOTHES WRINGER.
IT IS THE ONLY RELIABLE
Self-Adjusting Wringer.

No Wood-work to Swell or Split. No Thumb-screws to get out of order. Warranted with or without Cog-wheels.

It took the First Premium at Fifty-seven State and County Fairs in 1863, and nearly double that number in 1864, and is, without an exception, the *best* Wringer ever made. Patented in the United States, England, Canada, and Australia. Agents wanted in every town, and in all parts of the world. Energetic agents can make from $5 to $10 per day.

WHAT EVERYBODY KNOWS, VIZ.:

That Iron well galvanized *will not rust.*
That a *simple* machine is better than a complicated one.
That a Wringer should be *self-adjusting, durable, and effetent.*
That thumb-screws and fastenings cause *delay* and *trouble* to regulate and keep in order.
That wood soaked in water will *swell, shrink,* and *split.*
That wood-bearings for the shaft to run in *will wear out.*
That the Putnam Wringer, with or without cog-wheels, will *not tear the clothes.*
That cog-wheel regulators are not essential.
That the Putnam Wringer has *all* the advantages, and *not one* of the disadvantages above named.
That all who have tried it pronounce it the *best* Wringer ever made.
That it will wring a thread or a bed-quilt *without alteration*

We might fill the paper with testimonials, but insert only a few to convince the skeptical, such there be; and we say to all, *test* Putnam' Wringer. Test it *thoroughly* with *any* and *a* others, and if not entirely satisfactory, return it

Putnam Manufacturing Co.—*Gentlemen:* I know from practical experience that iron well galvanized with zinc will not oxydize or rust one particle. The Putnam Wringer is as near perfect as possible, and I can cheerfully recommend it to be the best in use. Respectfully yours,
John W. Wheeler, Cleveland, O.

Many years' experience in the galvanizing business enables me to indorse the above statement in *all particulars.*
John C. Lefferts, No. 100 Beekman St.

New York, *January,* 1864.—We have tested Putnam's Clothes Wringer by practical working, and know that it will do. It is cheap; it is simple; it requires no room, whether at work or at rest; a child can operate it; it does its duty thoroughly; it saves time, and it saves wear and tear. We earnestly advise all who have much washing to do, with all intelligent persons who have *any,* to buy this Wringer. It will pay for itself in a year at most. Horace Greeley.

Prices—$8, $9, and $10.

Sample Wringers sent, express paid, on receipt of price.

Manufactured and sold, wholesale and retail, by
PUTNAM MANUF'G CO.,
18 Platt Street, New York,
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GAS & WATER-METERS.
JOSEPH LENNIG,
1615, 1617, and 1619 Francis St.,
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MANUFACTURER OF
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3	30	24	24	21	15	12	100
2	28	22	23	20	14	12	75
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1	66	50	29	54½	39	18	$950
1½	59	50	26	48	39	15	800
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MERCANTILE F AND B SAFES.
Folding Doors and Monitor Locks.

3	50	42	27	40	32	16	$500
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Single Doors and M. Lock.

6	38	35	26	27½	23½	15	$250
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NATIONAL BANK SAFES,
With 2 Inside Burglars and 1 D and 2 M Locks.

OUTSIDE.			INSIDE.			
No.	Height.		Height.	Width.	Depth.	Price.
	In.		In.	In.	In.	
1	68		55	39	18	$1,200
2	61		48	39	18	1,050
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With Folding Doors and D Lock.

0	68	53	27	54	48	20	$1,000
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Single Doors and D Lock.

2	53	32	26	49	28	19	400
3	42	36	22	38	32		
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5	30	24	18	26	20	14	5

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No.	Height clear.	Width clear.	Depth adjustable.	Price.	Weight.
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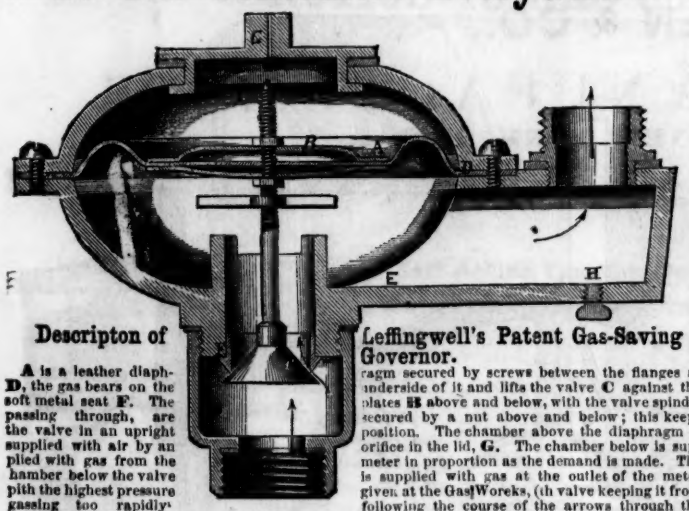
Business Depart., E. ALVORD. *Corresponding Depart.*, FOWLER AND WELLS

To Gas Consumers Everywhere.



Descripton of Leffingwell's Patent Gas-Saving Governor.

A is a leather diaph- ragm secured by screws between the flanges at D, the gas bears on the underside of it and lifts the valve C against the soft metal seat F. The plates H H above and below, with the valve spindle passing through, are secured by a nut above and below; this keeps the valve in an upright position. The chamber above the diaphragm is supplied with air by an orifice in the lid, G. The chamber below is sup- plied with gas from the meter in proportion as the demand is made. The hamber below the valve is supplied with gas at the outlet of the meter pith the highest pressure given at the Gas Works, (th valve keeping it from gassing too rapidly following the course of the arrows through th rovernor to the outlet where the distr.bution pipe is connected. E is a chamber to catch th tip, H stheo said chamber, at which point, if the drip troubles its action, a syphon it tached which c o .

STURGES & FROST, (MANUFACTURERS AND PROPRIETORS FOR THE UNITED STATES OF LEFFINGWELL'S PATENT GAS-SAVING GOVERNOR,) solicit attention to the above instrumen which the cut represents. It will positively lessen your gas consumption **15 to 40 per cent** without diminishing, but greatly improving, the light, which is done entirely on scientific principles easily comprehended.

The above facts are demonstrated by thousands of consumers who have them in practical operation in different parts of the Union. By sending two three cent postage stamps to the proprietors, No. 9 Mechanic Street, Newark, N. J., the GAS CONSUMERS MANUAL will be sent, containing price of the above Governor, full information with regard to the waste of gas, its causes and how remedied, an almanac for the years of 1864-5-6 and 7; also, a diary suitable for any year, together with certificates and references of many who have the Governors in use.

Try it by all means, it will not fail you.

Each Governor is Warranted Perfect.

STURGES & FROST.

☞ As no QUICKSILVER is used, Gas Companies will find it to their interest to favor its adoption among their consumers.

PRINCE'S METALLIC PAINT,

AN INDESTRUCTIBLE COATING FOR

IRON, TIN, and WOOD.

It consists of seventy-two parts Oxide of Iron, and twenty-eight parts Cement Lime Stone in the one hundred pounds.

It has much more body than red or white lead. It is warranted perfectly water and fire-proof and to withstand a greater heat on metals, without scaling, than any other paint in use.

It is a perfect cover for all kinds of iron, tin, or wood-work, out-houses, and canvas coverings. prevents and arrests the corrosion of metals, and is not affected by the action of salt, gases, acids or ammonia.

It hardens under water, as has been fully demonstrated by its application to gas-holders, by many of the largest gas companies in the United States; which companies having thoroughly tested its properties as herein claimed, pronounce in its favor over any other paints in the market, even though sold at double its price.

As a coating for patterns of iron or wood, when mixed with shellac, it is much superior to bees-wax, oil, or shellac alone, as has been proven at the large founderies in the country.

For patching boilers and making joints, it is considered superior to red lead, or any other preparation.

For cleaning metals it takes the place of crocus, rouge, and emery, being better and cheaper.

This Paint requires no more oil than dry lead or zinc, and much less than the ordinary mineral paints. It is free from any waste, and possesses a spreading and covering power unequaled.

Terms, by the Barrel or Half Barrel, Five Cents per Pound.

A liberal discount made to parties purchasing by the ton.

A Barrel or Ton will be forwarded to any gas companies desirous of testing its qualities, for which there will be no charge if it does not give entire satisfaction as being the cheapest and most durable of all other Paints in the market.

Also, Prince's Imperial Black Paint, and Prince's Protoxide of Iron.

DANIEL SLOAN, General Agent,
115 LIBERTY STREET, NEW YORK.

Local Agent—CALVIN GAY, 29 Doane st., Boston.

THE
STANDARD
GoldCompany
OF COLORADO.

DIRECTORS,
ROBERT BOWNE,
EDWARD WILLIS,
LIVINGSTON SATTERLEE,
ETHAN ALLEN,
S. A. BANKS,
SYLVESTER TAYLOR.

President, ROBERT BOWNE.
Secretary, F. A. MITCHEL.

MINES on FISK LODE,
BOBTAIL LODE,
GROUND HOG LODE,
ENTERPRISE LODE,
and others,

In all, 8,625 feet (linear), and large water powers and mill sites.

Capital issued, 40,000 shares, at $10 per share.

A limited number of shares are offered at the low SUBSCRIPTION PRICE (having been reserved for their customers), by

WILLIAMS & MITCHEL, 13 Wall Street.

SAFEST AND CHEAPEST SYSTEM OF INSURANCE.

WASHINGTON
INSURANCE COMPANY
172 BROADWAY,
Cor. Maiden Lane, NEW YORK.

CASH CAPITAL, - - - $400,000.
Assets, June 1, 1864, - - - 600,000.

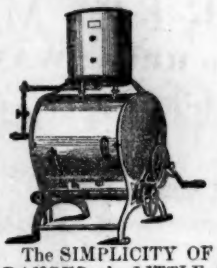
Scrip Dividend, 1863, - - 60 per Cent.
Scrip Dividend, 1862, - - 60 per Cent.
Scrip Dividend, 1861, - - 60 per Cent.

The Policies entitled to participate receive 75 per cent. of net Profits.

Insures Buildings, Merchandise, Furniture, Rents, Leases, against loss or damage by FIRE, and MARINE RISKS on LAKES, RIVERS and CANALS.

GEO. C. SATTERLEE, President.
HENRY WESTON, Vice Prest.
WM. K. LOTHROP, Secretary.
WM. A. SCOTT, Ass't Secretary.

DRAKE'S
PATENT
AUTOMATIC GAS MACHINE.



THIS MACHINE, which has been in constant use for more than two years, is now acknowledged to be the

Most Convenient, Simple, and Efficient Method

OF LIGHTING BUILDINGS OF ALL KINDS, out of the reach of regular gas-works, ever brought to public notice.

The SIMPLICITY OF THE APPARATUS, its ENTIRE FREEDOM FROM DANGER, the LITTLE ATTENTION REQUIRED, the EASE WITH WHICH IT IS MANAGED, and THE CHEAPNESS and SUPERIORITY OF THE LIGHT, has gained for it the favorable opinion of those acquainted with its merits.

The Machine takes up but little room; no disagreeable odor is experienced in its use; no fire is applied to the apparatus at all; it can be attached to ordinary gas-pipes used for coal-gas, and is burned through the same kind of fixtures.

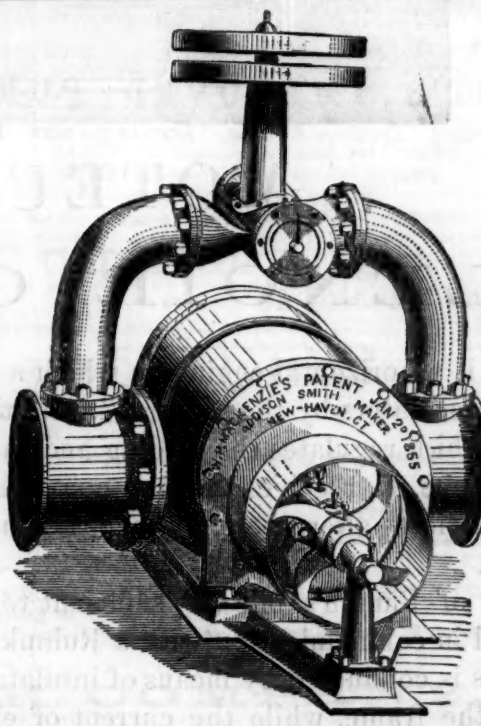
These Machines are manufactured in Boston, by the AUTOMATIC GAS-MACHINE CO., and are for sale at their Store, 78 Washington Street, Boston, and also at the Agency, MITCHELL, VANCE & CO.'s, No. 620 Broadway, New York

For further particulars, address—

MITCHELL, VANCE & CO.,
620 BROADWAY, NEW YORK CITY.

SMITH & SAYRE,
Sole Proprietors and Manufacturers of

THE MACKENZIE PATENT GAS EXHAUSTER AND COMPENSATOR.



They are made to pass from 4,000 to 150,000 cubic feet of gas per hour; will increase the pro tion and illuminating power of the gas, and add very much to the durability of the retorts, e clay or iron. The Compensator obviates entirely the necessity of water-joints, is compact, dur cleanly, not liable to get out of order, self-acting, quiet, and certain in its operation.

We are also sole proprietors and manufacturers of the

MACKENZIE PATENT BLOWER, PATENT CUPOLA AND SMELTING FURNACE.

The Blower is a Force Blast machine, durably built, and can be driven with one-third the powe required to drive the ordinary Fan. The Cupolas are manufactured in sizes to melt from 1 ton to 20 tons per hour, will save one quarter of the time required by the old style Cupola, and 33 per cent. nel. Address SMITH & SAYRE. 458 Broadway, New York.

SATTERLEE & CO.,
BANKERS
AND
STOCK BROKERS,
49 Exchnage Place.
NEW YORK.

G. B. SATTERLEE, H. TRACY ARNOLD,
H. A. BOSTWICK, LIVINGSTON SATTERLEE.

Mining Stocks bought and sold at the Regular, Mining, Boston and Philadelphia Boards.

ALBERT H. NICOLAY,
STOCK BROKER AND
AUCTIONEER,
No. 52 William Street,
NEAR WALL ST., NEW YORK.
Special attention given to the Buying and Selling of Gas-Light Companies' Stocks.

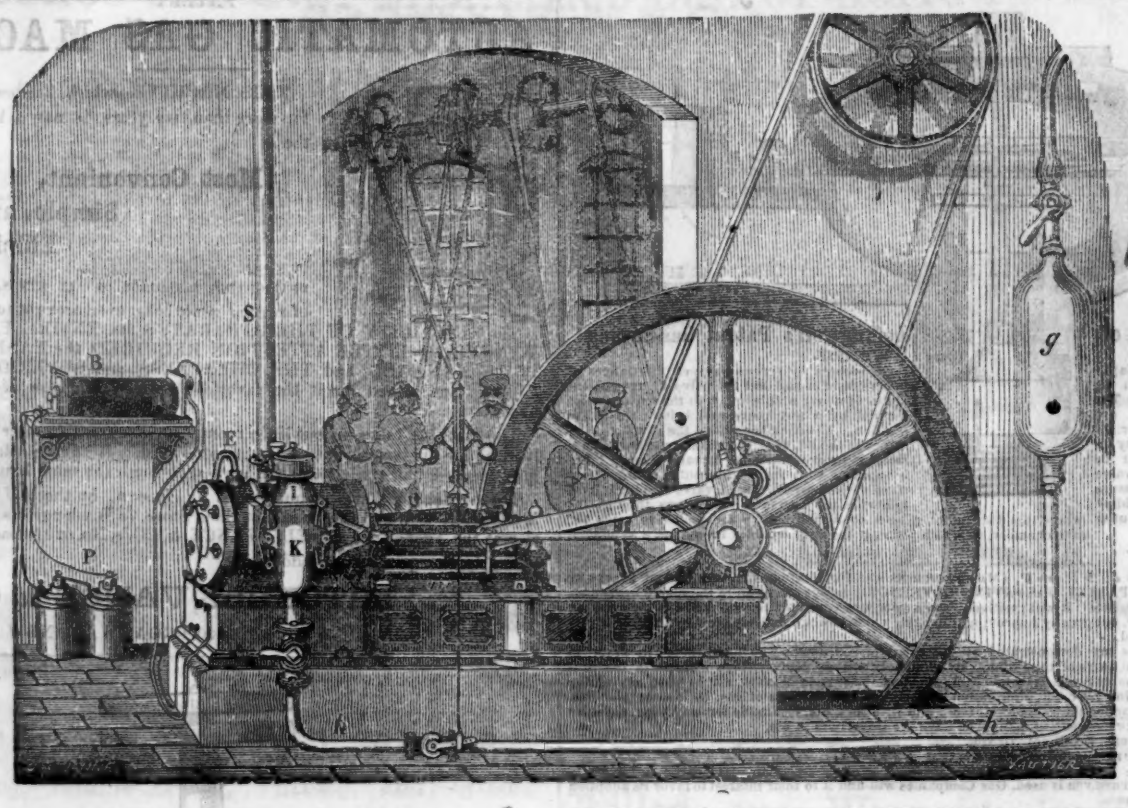
PARTICIPATION.
ÆTNA FIRE INS.
COMPANY OF NEW YORK,
NO. *170* BROADWAY.

CASH CAPITAL, $200,000. CHARTERED 1824.

The insured receive seventy-five per cent. of the net profits annually, without incurring any liability. When preferred, a discount will be made in lieu of participation in profits.

Scrip Dividend of 1861, - - 50 per cent.
Scrip Dividend of 1862, - - 50 per cent.
Scrip Dividend of 1863, - - 50 per cent.

JACOB BROUWER, *President.*
H. C. BEACH, *Secretary.*
WM. BARBOUR, *Asst. Sec.*



MOTEUR—LENOIR.

LENOIR GAS ENGINE.

This is a horizontal engine, in which a piston, by a connecting rod drives a horizontal shaft.

The gas enters by the pipe "h" from the regulating reservoir "g," (made of vulcanized india rubber,) which regulates the feeding and the branches connected with the gas-pipe.

The tube, K, receives the gas conveyed by the pipe "h," and conducts it to the valve, which opens and closes alternately, by means of a rod moved by an eccentric wheel fastened to the end of the shaft.

Two of Bunsen's piles, P, sufficient to produce the electricity are placed at a little distance from, and in communication with a Ruhmkorff electric apparatus, B. The electric current of this apparatus is conducted by means of insulated wires to the electricity distributor "m," placed on the front of the frame, while the current of electricity and its arrival at the inflammator, inserted at each end of the cylinder, is directed by the movement of the piston-rod, which, by an ingenious combination, impels a small movable slide before the distributor.

The burnt gas, after having performed its functions in the machine, escapes, by means of a valve, through a pipe, S, and the water designed to cool the interior of the cylinder enters through a double passage, by means of a pipe situated near the escape-valve, and goes out by the pipe, E.

A two horse and a half horse Engine are now in practical operation at the Dry Dock Iron Works, No. 435 East Tenth street, near East River, New York, where they are being manufactured, and those interested are invited to call and examine them.

THE LENOIR GAS ENGINE

Requires no Fire and makes no Smoke,

No Noise, no Dirt, and is thoroughly safe.

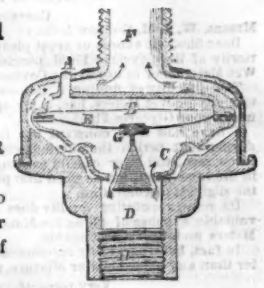
It is propelled by the expansion of Air, dilated by the combustion of Gas within the cylinder, ignited by the

ELECTRIC SPARK.

NOTICE TO GAS COMPANIES AND GAS CONSUMERS.

THOMPSON'S PATENT GAS CONTROLLER,

The only Self-Acting Gas Controller, Regulator, and Burner Combined which as ever been invented, or known to science.



THE PRINCIPLE UPON WHICH THE THOMPSON'S AUTOMATIC GAS CONTROLLER works is one well known to mechanics, and is simple in its operation.

Within the circumference of a small cylinder below the burner is placed a conical valve attached to a movable diaphragm. The diaphragm rises or falls as the pressure of gas from the pipe is lesser or greater, and the valve acts upon the valve-seat with such regularity of movement that in a difference of from five-tenths of an inch pressure to five inches the variation in flame is hardly perceptible.

The simplicity of its machinery and the nature of the material used in its construction insure its regular action and durability.

In consequence of the uniform quantity of gas which passes the Controller to the burner, there is no waste, and a steady, soft flame is produced, which is important to all who read, write, or work by gas-light. The unsteady flickering blaze which invariably exists when the pressure of gas is beyond the requisition for consumption, has injured the sight of thousands who have been subjected to it.

For street lamps these Controllers are especially valuable, because the pressure varies materially during the night, and in consequence there is a waste of gas, and the light variable.

Improvements have lately been made in the mechanism of the Controller which makes them almost a perfect meter to each burner, and they are now offered to the public with more confidence than ever before.

Reference is permitted to the following named gentlemen—

Col. CHAS. ROOME, President Manhattan Gas Company, N. Y.
C. H. SANDS, Esq., President Metropolitan Gas Company, "
J. H. ADAM, Esq., President New York Gas Company, "
PETER COOPER, Esq., Cooper Institute, "
JOHN A. DUFF, Esq., Olympic Theatre, "

GEO. H. KITCHEN, Inspector of Gas Meters, N. Y.
A. L. BOGART, Esq., Gas Engineer.
Col. J. A. SABATTON, Engineer Manhattan Gas Company.
Col. A. J. WHITE, Engineer Metropolitan Gas Company.
J. K. SIMPSON, Esq., Engineer Cooper Institute.

Persons interested are invited to call at the manufactory, 52 Greene street, where they can see the operation by pressure guage and test meters.

M. L. CALLENDAR, Agent
Office, 52 GREENE STREET.

THE AMERICAN METER CO,

Organized under the General Manufacturing Laws of the State of New York.

SAMUEL DOWN, PRESIDENT. HENRY CARTWRIGHT, VICE PRESIDENT. RICHARD MERRIFIELD, SECRETARY AND TREASURER.

TRUSTEES.

SAMUEL DOWN, WILLIAM HOPPER, R. H. GRATZ, HENRY CARTWRIGHT, RICHARD MERRIFIELD.
THOMAS C. HOPPER, *Superintendent at Philadelphia.*

This Company is now prepared to furnish WET AND DRY GAS METERS, STATION METERS, GOVERNORS, PRESSURE INDICATORS & REGISTERS, SERVICE and METER COCKS, and all other articles in their line appertaining to the use of Gas-Works.

The combination of Mechanical and Scientific Skill, and the long experience of the several members of the Company, is a sure guarantee of durability, accuracy and excellence of workmanship. Orders addressed

AMERICAN METER COMPANY,

512 WEST TWENTY-SECOND STREET, NEW YORK,
ARCH AND TWENTY-SECOND STREETS, PHILADELPHIA,
1 BARRETT STREET, BOSTON, will meet with prompt attention.

HARRIS & BROTHER,
PRACTICAL GAS METER MANUFACTURERS

Continue, as heretofore, at their old Establishment,

No. 1117 CHERRY ST., PHILADELPHIA,

TO MANUFACTURE

WET AND DRY GAS METERS and all kinds of GAS APPARATUS, and furnish all articles appertaining to the use of Gas Works.
OUR WORK WARRANTED—Satisfaction Guaranteed. Orders respectfully solicited, and promptly attended to, by—

HARRIS & BRO.
No. 1117 Cherry st., Phila.

GEO. H. KITCHEN & CO.,
NEW PATENT
GAS APPARATUS
For Country Residences, Public Buildings, &c.,
FROM $300 UPWARDS.
EVERY DESCRIPTION OF GAS FIXTURES.
Gas Fitting in all its branches.
561 Broadway,
NEW YORK.

WORTHINGTON'S STEAM PUMPS, extensively used by Gas-Light Companies. For Sale at greatly Reduced Prices.

Also, a new and highly successful Pump, driven by water pressure, requiring no attention or repairs, and the most economical water motor yet constructed.

Patent GATES, for Water and Steam-stops.
HENRY R. WORTHINGTON,
61 Beekman street, N. Y.

GLYCERIN
FOR
Filling Wet Gas-Metes,

Cheaper than Whisky or any othe substance.

We have furnished the Cincinnati Gas and Coke Company 300 barrels Glycerin, for filling their wet meters, and are now ready to supply other Gas Companies at the lowest cash prices.

We warrant our Glycerin not to corrode the meter metal, nor to freeze at the lowest ordinary temperature, nor to evaporate.

HARTMAN & LAIST,
Manufacturing Chemists,
Cincinnati, O.
Office 64 Sycamore.

Agent in New York, Paul Balluff, 95 Maiden Lane

WOODEN PURIFYING TRAYS.

PATENT
Conically Slotted Solid Wood Sieves
FOR GAS PURIFIERS.
CAUTION
TO
GAS MANUFACTURERS.

The Conically Slotted Solid Wood Tray was patented 21st October, 1862, by N. O. Hawxhurst, assignee of Wm. Combe and all persons are cautioned against purchasing such trays of R G. Hunt, or any other person except the subscriber, as it is a direct infringement of said patent The following companies are now using these trays.

Manhattan, New York,
Williamsburgh,
Brooklyn,
Albany,
Baltimore,
Philadelphia,
Chicago,
Louisville,
And numerous others

Orders received by mail or otherwise.

JOHN L CHEESMAN.
147 Avenue C New York City

Glycerin for Gas Meters.

This article is superior to any fluid ever before used for Wet Meters, and we cannot better set forth its advantages than by giving the following letter from the Superintendent of the Covington Gas Co. The superiority of our Glycerin over all others in the market, for this purpose, is admitted by every Company that has used it. We have sold, the past winter, to the Cincinnati Gas-Light and Coke Co.; to the Gas Companies of Covington, Ky.; Dayton, Springfield, Portsmouth, Urbana, and Piqua, Ohio Richmond, Ind., and Buffalo, N. Y, to whom we refer.

Glycerin is much cheaper than Whisky is now, or likely to be hereafter, and not evaporating, greatly increases the economy of its use.

OFFICE OF THE COVINGTON GAS-LIGHT CO.
COVINGTON, KY., Feb. 18, 1864.

MESSRS. W. J. M. GORDON & CO.:

Dear Sirs,—It affords us great pleasure in testifying to the superiority of the Glycerin Fluid purchased from you for filling the Wet Meters now in use by the Covington Gas-Light Company.

The difficulty of finding a non-evaporating and anti-freezing mixture for Wet Meters, has, in my opinion, been overcome by the use of your Glycerin Fluid.

I have had it in constant use for the past four months, and during that period the thermometer has ranged as low as 14° below zero, and after careful examination, I have found the fluid in the same condition as when first put in the Meters, and without the slightest discoloration.

Its non-evaporating quality does away with the hitherto unavoidable expense of filling the Meters monthly, and renders Wet Meters no longer objectionable.

In fact, I can cheerfully recommend it as being cheaper and better than any other Fluid or Mixture now in use.

Very respectfully,
S. S. STRATTON, *Sup't Cov. Gas Co.*

We have been engaged in Manufacturing Glycerin the past six years, and from our advantage in material and the large amount we make, are enabled to offer it lower than any manufacturer in this country. We will be pleased to quote prices or to give further information.

W. J. M. GORDON & BRO.,
MANUFACTURING
CHEMISTS & DRUGGISTS,
N. E. Cor. Central Avenue & Eighth St.,
Laboratory, Miami Canal, bet. Third & Fifth Sts.,
CINCINNATI, O.

ATLAS
OF THE
OIL REGIONS.

The extraordinary developments of the last few years have rendered indispensable to the community, A NEW and RELIABLE map of that portion of Pennsylvania, known as the OIL REGIONS. And such a Map, in the form of an Atlas, made from actual surveys of the whole territory (and the only surveys that have been made in the territory,) is now being prepared for publication by the undersigned, to which your special attention is invited. It will embrace the whole of VENANGO and portions of CRAWFORD and WARREN Counties, and is designed to be the most complete and perfect work of the kind ever published, showing distinctly—

1 A general map of Venango and parts of Warren and Crawford counties, Penn., and enlarged plans of each township.

2 All the original lot lines.

3 All subsequent subdivisions of lots in the oil districts, with the names of present owners or lessees.

4 All the Roads, Rivers and Creeks accurately delineated.

5 All Dwellings, Factories, Mills, Refineries, and Shops of every description.

6 Enlarged plans of all important Towns and Villages.

7 Enlarged plans of all the oil lands on Alleghany River, Oil Creek, French, Pithole, Tionesta, Hemlock and Tidelute Creeks, Cherry and Cherry Tree Runs, and all other Creeks and Runs on which discoveries o oil have been made.

8 Location and brief description of the property of all the principal Oil Companies.

9 Location and names of all the Oil Wells in the Territory.

10 A brief history of the Oil Business, from its first discovery to the present time, with valuable statistical information, making a volume of some fifty pages, about 15x18 inches, substantially bound.

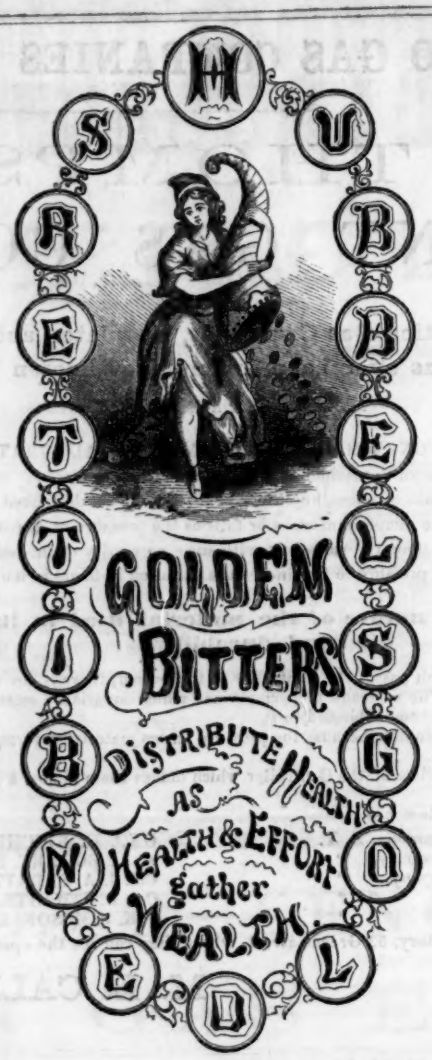
A limited number of business cards pertaining to the production or sale of oil, or oil territory, will be received, and if early application be made, parties may have views of their establishments, or wells, with brief notices of the same, inserted.

The surveys for the Atlas are completed, and the proprietors intend to have it ready for delivery to subscribers (only) by about the 1st of January next.

All persons or firms desiring the work are requested to send their names as subscribers to the undersigned before the 1st of December, and designate the number of copies wanted, and the place where they wish them delivered.

F. W. BEERS & CO.,
43 John St., New York,
or Franklin, Penn.

Franklin, Penn, Oct. 20, 1864.



New York, April 18th, 1864.

* * * * * *

We respectfully invite your attention to and consideration of the justly celebrated and reliable remedy for DYSPEPSIA, HEARTBURN, DEBILITY and PROSTRATION. The Proprietors are proud to acknowledge the unparalleled success which has attended the sale of their valuable preparation, known in nearly every portion of the civilized world as the

"GOLDEN BITTERS."

We risk nothing when we term them a *valuable preparation*, for they are one of the few articles of the present day which are not a humbug; and we are willing and able to satisfy any person or persons who will call upon us, that the celebrated "GOLDEN BITTERS" are a genuine *bona-fide hygienic* article. It is the wish of the proprietors that the virtue of the article be tested before condemning. A decision of their merits by any one who has tried them, is worth a million of purchased bogus testimonials.

For Creating a Healthy Appetite

they are invaluable, and are unequalled as a TONIC. They are mild in their action, and operate by giving *vigor* and *strength* to the system,—not by any change they produce in the solids, but through the medium of the living principle.

They are Purely Vegetable,

being composed of Gentian Root, Calamus, Sassafras, and many other remedial agents of the Vegetable world, all preserved in Jamaica Rum and Sherry Wine.

As a Beverage

They are the most *wholesome, invigorating* and *palatable* stimulant ever offered to the public And the fact of their being prepared chemically and scientifically, precludes the possibility of a bitter, unpleasant taste, common to Bitters generally offered for sale. We especially recommend them to LADIES, and particularly to those suffering from

DEBILITY, WEAKNESS, AND PROSTRATION.

Half a wine glass of these "Bitters" three or four times a day, will produce a remarkable healthy change in persons greatly debilitated.

The "Golden Bitters" have been tried and not found wanting. They are put up in our own *Patent* quart bottles, and for sale by Druggists, Grocers, &c., throughout the world. Each bottle bears a fac-simile of the signature of Hubbel & Co.

GEO. C. HUBBEL & Co, Sole Proprietors.
CENTRAL DEPOT, American Exp. Building, New York.

THE GOLDEN BITTERS.—We are not an advocate of stimulants of an alcoholic character; indeed we deprecate this "daily tonic" idea—this "morning toddy" which we see offered in all sorts of shapes as a recuperator, invigorator, revitalizer, &c. As a rule all artificial stimulants are dangerous remedies, and must be taken into the system as you would mercury or arsenic, in very small doses. But we have had an opportunity to try the now well-advertised article known as Hubbel's Golden Bitters, and are frank to say that where the system needs building up, where a stimulant is required to aid nature in restoring a lost appetite and infusing a vigorous action to the debilitated functions, we can recommend these Bitters. Hubbel's Golden Bitters are evidently intended to improve the debilitated human system, rather than to tickle the palate, and are, therefore a harmless and safe remedy o keep in the house.—*New York Weekly Day Book.*

Cooking & Heating
BY GAS.

CHEAPRR THAN COAL OR WOOD.

The "EAGLE" Gas Heating
STOVES,

Positively guaranteed free from Smoke or Smell.

Will Heat Offices, Parlor, Dining, Sleeping, and Bath Rooms. Also,

The EAGLE Gas Cooking
STOVES & RANGES,

Will BOIL, BROIL, ROAST, BAKE, TOAST,

STEW, and HEAT IRONS

The EAGLE GAS STOVES and RANGES have been in use for over Three years, and are found to be the most SIMPLE, COMPLETE and PERFECT Arrangment for HEATING and COOKING, in every respect, ever invented, and to do the Work with LESS TROUBLE, in LESS TIME and at LESS EXPENSE than any Coal or Wood stove.

Their WONDERFUL NEATNESS, CONVENIENCE and ECONOMY can be seen at a glance.

WE ALSO MANUFACTURE

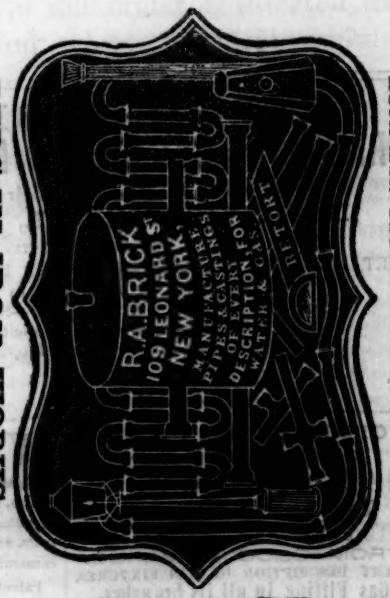
COAL OIL STOVES,
For Cooking and Heating.

The American Advertising agency 389 Broadway, N. Y. Bus. Dept., E. Alvord, cor. Dept., Fowler & Wells, receive orders for our stoves.

EAGLE GAS STOVE MANUFACTURING CO.
No. 474 BROADWAY, N. Y

☞ The Company have descriptive Catalogues, which will be sent or delivered, upon application for them.

PIPES AND CASTINGS,



BERGEN IRON WORKS,

OFFICE 109 LEONARD STREET, NEW YORK.

OF EVERY DESCRIPTION.